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JANUARY 1980

HOLMES SAFETY ASSOCIATION

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United States Department of Labor
MSHA
Mine Safety and Health Administration

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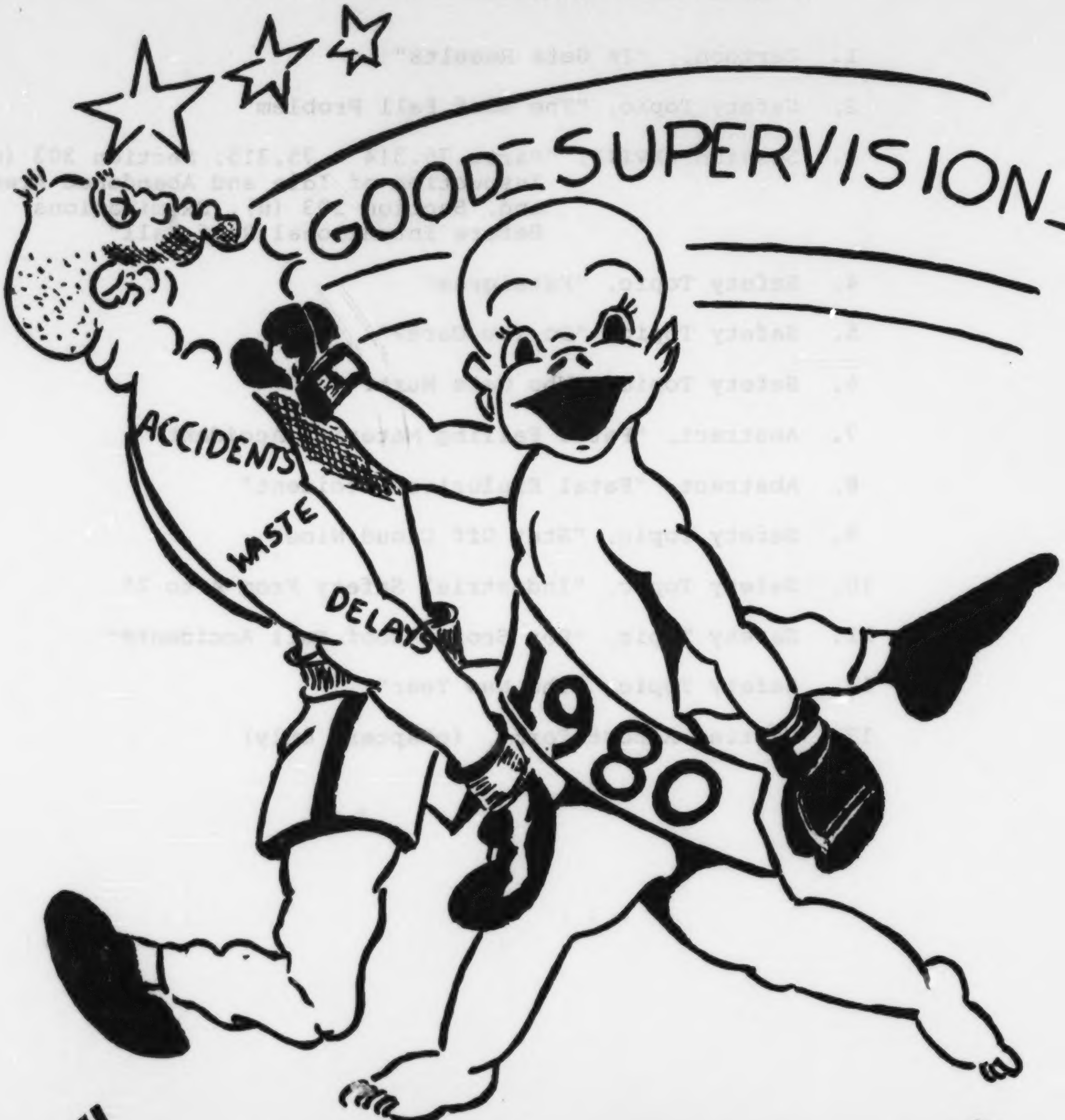
HOLMES SAFETY ASSOCIATION


GOOD SUPERVISION
ACCIDENTS
WASTE
DELAYS
1980

"IT GETS RESULTS"

JANUARY 1980

HOLMES SAFETY ASSOCIATION MONTHLY SAFETY TOPIC

THE ROOF FALL PROBLEM

The greatest danger in coal mining is, and always has been, coal or rock falling from the roof, rib, or face. Year after year, falling materials injure and kill far more miners than do mine fires, explosions, and flooding.

Everyone knows that machinery, blasting, electricity, or a fast-moving trip can be dangerous; but, all these hazards have not produced as many deaths as have roof-fall accidents. One-half or more of all miners killed in underground mines met death from a fall of roof, face, or rib.

Roof falls have no respect for anyone who works underground, whether it be a mine owner, superintendent, section boss, a new miner working his first shift, or even an old timer. Experience won't keep the roof off the back of anyone. Mine supervisors and miners with several years of experience who should be good examples, are also injured and killed. We should profit from the mistakes that have caused the most frequent and serious injuries in the past. These mistakes always involved disregarding one or more of the three "T's" for self-protection from loose roof, namely, Testing the roof; Taking down loose roof; or Timbering weak roof.

Experience has proven that failure to test the roof by sight, hearing, and by touch has been a major factor in numerous roof-fall injuries. In many cases, a casual visual examination was not enough to prevent an injury.

Probably the worst mistake being made, especially by experienced miners, is attempting to "out-guess" roof which is known to be loose. In numberous reported injuries, taking down or supporting the loose area was postponed on the assumption that the roof would hold a few minutes longer, until some small task was done. Our eyes, ears, and sense of touch can only tell us where the roof may be tight or loose, not how long it will stay in place.

Systematic supports will eliminate numerous misjudgments of roof conditions. Unfortunately, the safety effectiveness of standard support methods is not fully appreciated. At least one-half of the fatalities from roof-fall injuries have

(For use in underground coal-mining operations)

been traced to the failure of not following standard roof-control plans.

In setting safety posts or safety jacks, make sure they are the right length, and then, standing under the last row of roof bolts or cross bar, slide the bottom end of timber or jack out five (5) feet, stand it up, set it, and stay back under supported roof. It takes only a minimum amount of time to use this safe method. Practice working under supported roof.

I hope that each of you will remember the three "T's" of good roof-control practices; Testing, Taking down, and Timbering, and never fail to use them in performing your duties. We can and must do our part to reduce the number of roof-fall injuries. Let's each resolve not to be hurt by a roof fall.

JANUARY 1980

Session LXVIII

HOLMES SAFETY ASSOCIATION MONTHLY SAFETY TOPIC

Federal Mine Safety and Health Act of 1977

Section 303(m) and (n)

Parts 75.314 - 75.315 of the Code of Federal Regulations

Inspection of Idle and Abandoned Areas

Examinations Before Intentional Roof Fall

Sections 303(m) and (n) of the Act set forth the requirements for conducting examinations of idle and abandoned areas and the examination that is required before intentional roof falls are made. These requirements are found in Parts 75.314 and 75.315 of the Code of Federal Regulations.

Section 303(m), Part 75.314 requires an inspection of idle and abandoned areas where methane, oxygen deficiency, and other dangerous conditions could exist. This inspection should be made by a qualified person as soon as possible but not more than 3 hours before other persons may enter or work in such areas. However, qualified persons, such as pumpmen who are required regularly to enter idle or abandoned areas may make examinations for themselves, but not others, if they are trained and qualified in the use of instruments to detect methane and oxygen deficiency. Idle and abandoned areas of a mine are ordinarily not maintained as carefully as active working places; therefore, conditions in these areas are likely to deteriorate rapidly, and the areas may contain numerous hazards such as accumulated gas and bad roof.

Rather frequently, pumps are installed in idle areas, and materials are recovered from abandoned or idle areas, making it necessary for workers to enter and perhaps work there for brief periods. Even persons who are well trained and qualified shall enter abandoned or idle areas very cautiously. Oxygen-deficient air can be encountered in poorly maintained and ventilated areas. There are a number of recorded incidents of miners succumbing to oxygen-deficiency areas. Of course, the roof conditions may be of such nature that the mere sound of activity in a long-abandoned area may cause the roof to fall. Before entering such areas, be sure they have been examined by a certified person.

(For use in underground coal-mining operations)

Section (n) or Part 75.315 requires that immediately before an intentional roof fall is made, the pillar workings shall be examined by a qualified person to ascertain whether methane is present. The Act prohibits intentionally inducing such falls if 1.0 percent or more of methane is present. When a pillar fall is made, the force and mass of the fall causes the air in the area to be moved into and from other areas and, if the air contains explosive gas, it could quite easily create a dangerous situation. There have been a number of ignitions and explosions, causing quite a few injuries that have been attributed to friction caused by roof falls when methane was present or released at the time of the fall. This section of the Act applies when pillar stumps are removed, when the roof is drilled and blasted, or when posts are removed to induce an intentional roof fall.

This provision of the Law is not intended to require an examiner to be in an unsafe area, such as unsupported or broken roof along a pillar line. The examination should include enough of the area to assure that no accumulation of methane is present on the pillar line before the fall is made.

Fatalgram

JANUARY 1980

.S. Department of Labor
ine Safety and Health Administration
etal and Nonmetal Mine Safety and Health Activity

date November 23, 1979

SPECIAL FATALGRAM

TWELVE ELECTRICAL FATALITIES HAVE OCCURRED IN METAL AND NONMETAL MINES FROM FEBRUARY THROUGH OCTOBER 1979, WITH FOUR HAPPENING IN SEPTEMBER ALONE.

SIX OF THE ACCIDENTS RESULTED FROM FAILURES TO DEENERGIZE POWER WHILE WORKING ON EQUIPMENT. SOME OF THESE FAILURES WERE DUE TO LACK OF INFORMATION ABOUT THE EXISTENCE OF CERTAIN CONDUCTORS OR CONNECTIONS, RATHER THAN PURE NEGLIGENCE.

THREE WERE DUE TO CONTACTING HIGH VOLTAGE POWER LINES.

THE REMAINING THREE WERE ASSOCIATED WITH INADEQUATE OR OLD, WORN INSULATION.

ALL WERE PREVENTABLE AND WOULD NOT HAVE HAPPENED HAD ALL APPLICABLE METAL AND NONMETAL SAFETY STANDARDS BEEN FULLY COMPLIED WITH.

1. DRIVER DUMPED LOAD AND DROVE INTO HIGH VOLTAGE TRANSMISSION LINE BEFORE LOWERING TRUCK BED.

2. VICTIM REPLACED A RELAY; THEN WAS ELECTROCUTED CONTACTING A BARE WIRE OF ANOTHER CIRCUIT.

3. ELECTROCUTED BY DEFECTIVE WIRING OF SUMP PUMP IN WATER WHERE HE WAS STANDING.

4. VICTIM PAINTING AT TOP OF LARGE BINS. CONTACTED HIGH VOLTAGE CABLE WHICH PASSED CLOSE BY.

5. ELECTRICIAN APPRENTICE SHOCKED BY IMPROPERLY WIRED EQUIPMENT WHICH GROUNDED THROUGH METAL LADDER HE STOOD ON.

6. VICTIM STANDING IN DREDGE POND ELECTROCUTED BY POORLY INSULATED SUBMERGED CABLE HE WAS MOVING.

7. VICTIM ON TRANSMISSION LINE SUPPORT TOWER CONTACTED 5.5 KV-A POWER LINE.

8. VICTIM RAISED DUMP BODY OF TRUCK INTO TRANSMISSION LINE. ELECTROCUTED STEPPING DOWN TO GROUND.

9. JUNCTION BOX ENERGIZED BY UNINSULATED WIRE. VICTIM ELECTROCUTED CONTACTING THE JUNCTION BOX.

0. VICTIM INSTALLING SHOVEL TRANSMISSION, CONTACTED ENERGIZED COLLECTOR RING.

1. DISCONNECTING 4160 VOLT MOTOR LEADS AT CONTROL CENTER; LEADS UNEXPECTEDLY STILL ENERGIZED FROM ANOTHER SOURCE.

2. REPLACING CENTER PIN OF SHOVEL USING EXTENSION CORD LIGHT, CONTACTED STILL-ENERGIZED 2300 VOLT CONDUCTOR.

-04

DEATH TOLL Period covered: January - September

ear	Underground	Surface	Mills	Total
1978	28	50	27	105
1979	17	46	18	81

DO YOUR PART TO KEEP THE TOLL DOWN!
SAFETY IS EVERYBODY'S BUSINESS

U.S. Government Printing Office: 1979—677-158/8

or use in underground and surface mining operations - noncoal)

JANUARY 1980

HOLMES SAFETY ASSOCIATION MONTHLY SAFETY TOPIC

Do You Care?

You have to care about safety. Many people who have been injured in the past knew they should have been more careful. Even in instances where there should have been a guard but there wasn't, the injured knowing this, shouldn't have allowed himself to become injured. Guards are not the only answer. Many times people are injured because of a missing guard which they removed and failed to replace themselves. Then, too, there are some people who manage to get themselves injured in spite of good guards. They reach around the guards, they block out safety devices, or they use tools or equipment beyond their safely rated capacity. You have to care!

Maybe subconsciously some people like to become injured. They then get a lot of attention and they like this. Maybe they think they are getting something for nothing. Free! "The employer has to pay compensation cases, so why should we worry about it?" they say. This is folly, of course, because who knows when a seemingly slight accident may be fatal. If people really care, they would realize this and not take even the slightest chance.

There are many reasons why a person should care. First, for personal reasons. Injuries are painful. They are a nuisance. An injured employee is not fully compensated for all the time lost from work. The injury may affect a persons' ability to drive or do other things usually taken for granted. Also, there are other people who care and depend upon that person. They may not be able to play with their children or help around the house and yard, or be involved in recreational activities with neighbors and friends. People who care know these things. They don't want to miss doing any of these things that they usually do, and they work as safely as they know how. Do you care?

(For use in underground and surface mining operations)

JANUARY 1980

HOLMES SAFETY ASSOCIATION MONTHLY SAFETY TOPIC

WHO GETS HURT?

At first glance, it appears rather obvious that the person who had to go, or be taken, to first aid or to the doctor because of an accident was the person who was "hurt". But was he the only one?

Let us take a look at a disabling case and discuss who gets "hurt".

An employee, during his usual job, allowed an object to fall; it landed on his foot, and he received a fracture.

The employee's work record was good, yet his injury record was only fair. The accident was definitely traced to inattention to the job. This man is in his thirties, is married, and has two children.

NOW -- WHO GOT HURT?

First: We know the man suffered pain from his broken foot. We also know he worried about loss of income, and this worry was shared by his wife. This distress did not last only for the 25 days the employee lost from the job but was actually a financial setback which took him months to recover.

It is particularly of interest that this employee's record shows him to be efficient and dependable, with practically no absenteeism, until the time of the accident. Shortly after returning to work, he was notified of a garnishment of wages. Following that, his record discloses a large percentage of absenteeism explained as sickness and personal business. Following conferences with the man, it was found that he had taken a second job in an attempt to catch up on bills. Proper guidance and assistance eliminated this potential for further serious accidents and eliminated the absenteeism.

Second: Did the foreman get "hurt"? Not in his personal physical condition, but:

1. He lost time when he took the man to first aid.

(For use in underground and surface mining operations)

READEX FICHE

2. He lost the services of an experienced employee on a particular job.

3. He had to rearrange employees and work assignments.

4. He lost production and, to an extent, quality.

5. He had to take time to investigate and write reports of the accident.

6. He had to answer questions of concerned fellow employees.

7. He had to inform his line organization.

8. He lost again when the employee returned, unable for a time to perform as quickly and efficiently as he did prior to the accident.

Third: Did the company lose? This case cost the company more than $1,000 in compensation and medical treatment. This was a direct cost and did not include the cost of company first-aid facilities. If we were to take the nationally established ratio of 4 to 1 to determine the indirect cost, this accident cost the company $4,000 in indirect costs and $1,000 in direct costs or a total of $5,000 for a fractured foot caused by inattention to the job.

With these facts, we can state that the man, his family, his supervisor, his department, and the company lost through the occurrence of this accident. On the other hand, nobody won.

This has been the history of just one typical disabling case. How often can YOU afford a disabling injury?

JANUARY 1980

ABSTRACT FROM FATAL ACCIDENT

HOLMES SAFETY ASSOCIATION
MONTHLY SAFETY TOPIC

FATAL FALLING MATERIAL ACCIDENT

General Information: A falling material accident occurred in a coal silo under construction resulting in the death of a welder helper. He had 8 weeks construction experience, all at this mine.

Description of Accident: The construction crew started work on the coal storage silos which consisted of constructing hopper liner to funnel stored coal to the bottom discharge ports. These liners consisted of 4' x 8' AR steel plates welded together on a channel steel framework.

Work proceeded without incident while the abrasion resistant steel plates were set in place and anchored to the silo walls. When the plates were anchored, the concrete pour was started on the east plate and proceeded for three truck loads of concrete, which amounted to about 6 vertical feet of concrete. During the pour, the victim and another employee were on a scaffold at the top of the plate, directing the pour and sealing the cracks between the plate and the silo wall with rags. Two other workers were on a corresponding scaffold on the opposite liner plate waiting to start the pour on that side.

The construction foreman was about halfway down the east plate on his way back from inspecting the backfilling operation when a cracking, popping noise was heard and the east plate started pulling away from the silo wall. One employee went down the ladder to safety and the foreman scrambled to get off the plate and ended up lying on the bottom platform completely covered with concrete backfill.

As the plate slowly pulled away, the victims' partner climbed over the top to the backside of the plate where he rode the plate down. The victim reached for the hoist hanging near the east wall, but either did not get a good hold or was knocked off by the falling steel plate. He fell to the bottom platform near where the foreman was lying, and was fatally injured when struck by the steel plate.

(For use in surface coal-mining operations)

The victim was rescued from the silo and rushed by ambulance to the hospital where he was pronounced dead on arrival.

Cause of Accident: The accident occurred due to the failure to adequately design a method of anchoring the liner while pouring concrete.

JANUARY 1980

ABSTRACT FROM FATAL ACCIDENT

HOLMES SAFETY ASSOCIATION
MONTHLY SAFETY TOPIC

FATAL EXPLOSIVES ACCIDENT

General Information: The mine was an underground fluorspar mining operation. The mine was opened by a 10-foot wide by 12-foot high adit which was 15 percent downgrade for a short distance and then leveling out to about 5 percent downgrade for a total distance of 450 feet. A ladderway and drift provided an escapeway to the surface. A shrinkage stope method of mining was utilized to mine the vertical vein-type ore body.

A mine superintendent was fatally injured when he failed to leave development drift after a 38-hole blast round was ignited. He had 3 to 4 years previous experience as a supervisor and a total of nearly 20 years mining experience.

Description of Accident: Two miners and a miner's helper started to work on the day of the accident performing their usual duties in the main haulage drift heading. During the shift, the three men pumped out the water that had accumulated overnight and drilled and charged a full face round in the approximate 10 by 12-foot drift heading.

At the normal blasting time, the mine superintendent, (victim), went to the shrinkage stope where two miners were working. He examined the workplace, checked the area to see that everyone was accounted for, and gave instructions to ignite the charged round. He also made certain that both stope miners left the area immediately and went to a safe location. This was established practice at blasting time.

The superintendent arrived at the haulage drift heading 10 minutes later and again examined the workplace before giving instructions to ignite the round. The two stope miners were about 80 feet up the drift and observed the superintendent and the two miners still at the face. The superintendent was cutting fuse around the burn with his knife and attempting to relight them with a lighter.

The drift miners stood behind and watched the superintendent, both insisting that it was time to leave. Meanwhile, the stope miners were "screaming" at the men to leave but the

(For use in underground mining operations - noncoal) superintendent continued to ignore them. The miners finally left just before the round went off.

One drift miner who was seriously injured estimated that he was about 35 feet from the blast and another slightly injured, was several feet further from the blast. According to the witnesses, the superintendent made no attempt to leave the face. The victim was pronounced dead at the scene by a coroner.

It was suspected by one witness that the victim was attempting to light some fuse that had already burned. Also, he cut other fuse ahead of where it was burning and was unable to relight it with a cigarette lighter. Reportedly, the victim established the mining practices and enforced all safety rules in the mine.

Cause of the Accident: The cause of the accident could not be determined because the mine superintendent was killed and no apparent reason for his actions could be determined.

JANUARY 1980

HOLMES SAFETY ASSOCIATION MONTHLY SAFETY TOPIC

STAY OFF CLOUD NINE

You may think you are a cinch to win a lottery, but can't possibly have an accident even though the odds are a thousand to one in favor of the accident.

As Benjamin Franklin put it, "Experience holds a dear school, but fools will learn in no other." Cicero, the philosopher, said in the same vein, "Wise men are instructed by reason. Men of less understanding -- by experience. The most ignorant -- by necessity."

When we blame others for our own failures, it is a good idea to credit somebody else for our success. Does the average person care to assume the blame for their own accidents? They seldom do. It is rarely their fault when they are hurt. It's always the company, the weather, or conditions. Yet, let the same person receive a safety award, and they alone did it with their ability to use their faculties and their superb awareness of danger. What part did the company, weather, or conditions do with it? Nothing. They did it all by themselves. SURE THEY DID!

Whenever a person is diminished or lost, everyone suffers a loss. Something is gone that can never be replaced. If we remember this for our own sake, and especially for the sake of those who hold us dear, we should forget our egoistical attitude and remember we are no wiser than our neighbor in regard to accidents. In all probability, we also thought an accident was something that happened to somebody else.

Keep your head out of the clouds. Your chances of getting hit by an airplane are a million times less than a mere ground type accident. If your head is in the clouds, you'll never see that accident coming and be able to avoid it. In other words, get wise to your inconsistencies and be sure of your ground and surroundings. Pride goeth before a fall, it is said. Don't let your pride and inflated ego lead you to destruction. If you are as wise as you want others to believe,

(For use in underground and surface mining operations)

you will practice what you most desire in others. Make your actions safe ones so neither you nor your neighbor will be sacrificed as a statistic on a loss column. People were not created to be a statistic. People were created to enjoy life. Be alert, be safe, and you will be allowed to live and find happiness in an unblemished whole body as your Creator planned for you at birth.

JANUARY 1980

HOLMES SAFETY ASSOCIATION MONTHLY SAFETY TOPIC

INDUSTRIAL SAFETY FROM A TO Z

A is for Accidents,
  which can be tabooed,
The very first step is the
  right attitude.

B for the Bonus safety brings
  in variety,
To workers, their family, home
  and society.

C--injury Costs, seldom fully
  revealed,
Like icebergs, the far greater
  part is concealed.

D is for Data, essential
  to bare,
Just what the actual problems
  are, and where.

E--Education, which has no
  divorcement
From sound Engineering and
  wholesome Enforcement.

F is for Follow-Up. Surveys
  are vain
Without further check whether
  hazards remain.

G is for Guarding, and it's a
  disgrace,
When guards are not used, or
  not kept in place.

H for Housekeeping, a pretty
  good gauge,
Of whether a firm, safety-wise,
  is of age.

I is for Injuries--(outcome of
  flaws),
They never just happen, there's
  always a cause.

J is for Jargon,
  however sincere,
The message is lost if
  the meaning's not clear.

K is for Knowledge,
  But it isn't enough,
To know what to do,
  We must still do our stuff.

L is for Life, and the fruits
  of our Labor,
Work safely, for your good and
  that of your neighbor.

M is for Maintenance,
  Powerful pal,
To miners, machinery, and
  to morale.

N is for Now,
  Let us faithfully vow,
To deal with all hazards,
  And deal with them now.

O for Observance of all
  safety rules,
Obeyed by the wise,
  Disregarded by fools.

P for Prevention,
  (Far better than cure),
That Planning and Programs
  will help to insure.

Q for the Qualified,
  They understand
Production and safety go
  hand in hand.

R for Reporting and Records,
  both needed,
For trends to be discovered
  and heeded.

(For use in underground and surface mining operations)

S--Supervision,
  And experts agree,
In Safety, the competent
  supervisor is the key.

T is for Training,
  designed to instill
The desire to work safely
  as well as the skill.

U for the Unsafe
  work practices that
Employers and employees alike
  should combat.

V is for Vision
  in hazard detection.
And also for Vigor
  in hazard correction.

W--Waste
  (and how it can hurt),
That safety and safety
  alone can avert.

X is for Xmas,
  With family cheer,
For those who work safely
  the rest of the year.

Y is for You,
  for whom safety is planned.
It can't be complete
  unless You lend a hand.

Z for the Zealous -
  each one a hero,
Who strives to bring injuries
  closer to Zero.

JANUARY 1980

HOLMES SAFETY ASSOCIATION

No. 1 Killer on Rampage

OX SCORE--ROOF FALL ACCIDENTS

YEAR	Jan	Feb	Mar	April	May	June	July	Aug	Sept.	Oct	Nov	Dec	TOTAL
1977	4	4	4	2	7	2	0	3	0	4	4	4	38
1978	0	0	1	5	3	5	2	8	3	2	3	1	33
79	3	4	5	2	4	5	5	12	9	7	4		

KEEP YOUR MINERS AWARE ....
ROOFUS THE MONSTER IS ALWAYS THERE ....
HE WAITS TILL YOU RELAX ....
THEN HE DROPS THE AXE ....
AND YOU BECOME A STATISTIC ....
IN THE BOX SCORE UP THERE ....

CHANCE

TAKERS ARE

ACCIDENT

MAKERS

or Use In: Underground Coal Mining Operations

JANUARY 1980

HOLMES SAFETY ASSOCIATION MONTHLY SAFETY TOPIC

THE NEW YEAR

This is a new work year. It is customary to make a fresh start and look at our past safety efforts in a very critical manner. Unsafe practices should be discarded and new safety ideas added to those that have proven effective.

At the beginning of a new year, we should recognize the need for personal improvement, compile a list of all bad habits and discard them. Many of us are successful in this effort. Others either set their goals too high or really do not want to change, and will soon fall back to their old routines (bad habits).

Each of us should do some soul-searching and take a long, hard look at our safe work habits and resolve to improve. Naturally, not all of your work habits are bad, so all that is necessary is a refinement of the safe practices that we know and discuss each shift. Before beginning any work, thoroughly examine the working area and always be sincere in your efforts. This should be at the top of your list of New Year's resolutions.

In the handling of your equipment, are you always aware of the potential dangers that could result in any injury if you fail to keep your mind on the job?

One of the things that makes America great is our desire to keep improving and always do better in our efforts. We do not like to stand still. We want better cars, better living conditions, and more of everything that spells advancement and progress. That should hold true for our accident record. Why should we be content to advance in all other fields and yet stand still when it comes to injuries to ourselves?

We have a better safety record now than we did several years ago, but it is still not good enough. We must improve until injuries in our industry are rarities. Accidents are as unnecessary now as they were years ago. We will be guilty of neglect if we do not improve our record, because we have shown in the past that it can be done and we have the know-how to do it.

(For use in underground and surface mining operations)

Improving our safety record is not just to better our standing on a chart or on our companys' book. You and I know that improving our records means fewer persons hurt, more happy families, more steady work, and more freedom from pain and suffering.

Let us all resolve to work safely during 1980, improve where necessary and help to lower the figures on all serious lost-time disabling and fatal injuries.

☆ U.S. GOVERNMENT PRINTING OFFICE 1980-O-677-182/4

MSHA, Holmes Safety Association
Education and Training
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Denver, Colorado 80225

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February 1980

HOLMES SAFETY ASSOCIATION

SAFETY EFFICIENCY

MINERAL INDUSTRIES

BULLETIN

United States Department of Labor
MSHA
Mine Safety and Health Administration

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February 1980

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February 1980

HOLMES SAFETY ASSOCIATION MONTHLY SAFETY TOPIC

In Case of Fire
(On Section)

This week let's discuss a subject that is of prime interest to each of us. What will we do if a fire starts on our section--for example, in a cutting machine? Since the potential for a fire is always present because of the electrical conductors and the numerous combustible supplies that are necessary to perform our duties, it is important for us to thoroughly understand what can happen and to have a general prearranged plan in the event that a fire does start.

What can we do in case of fire? Do we yell for someone to do something? Do we grab the nearest fire extinguisher or sack of rock dust? Do we run like a Derby winner for the nearest exit?

Each of us realizes the hazards that an underground fire presents; however, as with any other job or duty, there are right and wrong ways to act in case of a fire.

In case of a fire, we do give the alarm, we do try to put out the fire, and we do everything possible to protect ourselves; however, we do not yell, we do not run, and we do not grab the first thing that is handy and throw it on the fire.

If we will remember the following thoughts and use them in the right way, it is possible that we can extinguish the fire, save our jobs, and maybe our lives:

1. In case of fire, should we try to put the fire out first? Yes, some of us will start to fight the fire promptly, but one of us must report it to the surface officials immediately.

Many fires have gotten out of hand because all people in the vicinity attempted to control them without having enough equipment or help. Therefore, if there are two or more of us in the area when a fire starts, one of us will report the fire to the surface, and the other will fight the fire. Do not lose your head, and do not run. Panic can only create confusion and may cause someone to be injured or lose their life.

(For use in underground mining operations)

If some of you are not immediately concerned with the fire, you should gather at some central location, for example, the loading point. By doing this, it can quickly be determined if everyone is accounted for and safe. Otherwise, one of us could be trapped behind the fire and smoke, and we would not know of it, which could prove fatal. When everyone is accounted for, then we can begin to plan our actions for combatting the fire.

2. Next we try to put out the fire. Most fires start small and can be extinguished easily if we do not waste time and do the job properly. One of us will remove all electrical power from the area. Each of us should know the location of the cutout switches for our area. (Foreman should be positive that each person is familiar with these locations.) Your self-rescuer should be used only for escape and not to fight the fire.

We will approach the fire from the intake side, and we must take tools and material for the erection of curtains. It is quite possible that we may have to start some distance back from the fire area with these curtains. We do not want the full ventilating current to pass through the fire area, so it will be necessary to short-circuit or divert a portion of the air directly to the return. There should be just enough air passing over the fire to keep back any smoke and to carry away any gases that might accumulate.

If the fire is large, we will probably have to set additional timbers outby the fire area, as the roof will be affected by the heat. Only after we have made ourselves safe can we begin the actual firefighting by using our fire extinguishers, rock dust, water, or sand. Let us hope we never have a fire; if we do, let us keep a cool head and act promptly.

SECTION FOREMAN--GOOD TIME TO CHECK SECTIONAL FIRE-FIGHTING EQUIPMENT.

February 1980

Session LXIX

HOLMES SAFETY ASSOCIATION MONTHLY SAFETY TOPIC

Federal Mine Safety and Health Act of 1977

Section 303(o)

Part 75.316 of the Code of Federal Regulations

Ventilation System and Methane and Dust Control Plan

Section 303(o) of the Act (Part 75.316 of the Code of Federal Regulations) stipulates that a ventilation system and methane and dust-control plan must be formulated for each coal mine. The plan must be submitted to and approved by the district manager in whose district the mine is located. The plan must show the type and location of mechanical ventilation equipment used in the mine, the quantity and velocity of air reaching each working face, and other information required by the district manager. The plan must be reviewed every 6 months.

In order to comply with this requirement, the operator must submit to the district manager the following:

A. An accurate up-to-date map of the coal mine at a scale of not more than 500 feet to the inch and supporting data which shall include:

  1. The limits of the mine property including all known underground workings bordering the mine above and below and on adjacent properties.

  2. The location of all oil and gas wells.

  3. The location of all surface installed fans, type of fan, manufacturer's name, size of fan, and complete current operating specifications.

  4. Location of all surface mine openings.

  5. Any abnormal conditions or reservations, such as faults which may affect mine ventilation system design.

  6. Projections of anticipated mine development for at least 1 year.

  7. Direction and volume of air at each surface mine opening.

(For use in underground coal-mining operations)

8. All underground workings with the active working sections delineated.

9. Location of all stoppings, overcasts, undercasts, regulators, seals, and ventilating and man doors.

10. The volume of air entering and leaving each split, passing through the last open crosscut in each set of entries and rooms, at the intake end of each pillar line, and at each face.

11. The velocity of the air current, when such velocity is required at each working face, in all conveyor belt haulage entries, where trolley haulage systems are maintained, and where trolley wires and trolley feeder wires are installed.

12. Average entry height in conveyor belt and trolley haulage systems.

13. Areas which have been abandoned and areas from which pillars have been wholly or partially removed.

B. A ventilation system and methane and dust-control plan which shall show in detail:

   1. The methane and dust-control practices along all haulageways and travelways, at all transfer points, at underground crushers and dumps, in all active working places, and in such other areas as may be required by such district manager.

   2. All face-ventilation systems used and drawings illustrating system use, anticipated air quantities and velocities in the working place, and the use and application of the system under all anticipated mining conditions.

   3. When auxiliary face ventilation systems are used, a detailed plan of such system, including equipment specifications, fan capacity, method of application, and methods to be used for maintaining continuous airflow to the working face in the event of auxiliary equipment failure.

   4. The bleeder entry system, when such system is used, including:

      a. Methods for maintaining the bleeder entries free of obstructions, such as roof falls and standing water.

b. Ventilating devices, such as regulators, stoppings, and bleeder connectors used to control air movement through the gob bleeder entries.

After receiving this information, the district manager, through his engineering staff, accepts or rejects the plan. You can be sure that the plan has had a meticulous review before it is finally approved. Strict compliance with an approved ventilation and dust-control plan should assure a well-ventilated mine with close control of methane liberations and respirable and explosive dusts.

February 1980

HOLMES SAFETY ASSOCIATION MONTHLY SAFETY TOPIC

You Must Be Right! (Roof Testing)

The No. 1 safety problem and menace to our lives as coal miners is falls of roof, face, and ribs, so we are constantly stressing the importance of using proper procedures and good judgment when examining the roof. Although an examination alone never held one ounce of roof, it is still our first step in protection against falls and must be properly performed.

As miners, we should ask ourselves the following three questions. If an affirmative answer cannot be truthfully given to each one, then you should give serious consideration to changing your attitude concerning roof testing.

1. Do you always make a thorough examination and never assume that the roof is good because it has been good in the past?

2. Do you always use the proper tool to test the roof and never improvise?

3. Do you keep a constant check on the roof for disturbances caused by pillar workings, drilling, shooting or blasting?

(For use in underground coal-mining operations)

February 1980

HOLMES SAFETY ASSOCIATION MONTHLY SAFETY TOPIC

The Three T's of Roof Control

The greatest danger in coal mining is, and always has been, coal or rock falling from the roof, rib, or face. Year after year, falling materials injure and kill far more miners than do mine fires, explosions, and flooding.

Everyone knows that blasting, electricity, or a fast-moving trip can be dangerous, but all these hazards have not produced as many deaths as have roof-fall injuries. One-half to two-thirds of all miners killed in underground coal mines met death from a fall of roof, face, or rib. For example, in one state alone, 30 miners lost their lives due to falls of roof, face, and ribs. During this same period, 466 nonfatal lost-time injuries were reported. Not a pretty record, to say the least.

Roof falls have no respect for anyone who works underground, whether it be a mine owner, superintendent, section boss, a new miner working his first shift, or even an old timer. Experience won't keep the roof off anyone's back. Mine supervisors and miners with several years of experience are being injured and killed. The average experience of miners killed by a fall of roof is about 22 years.

We must profit from the mistakes that have caused the most frequent and serious injuries in the past. These mistakes always involved disregarding one or more of the three "T's" for self-protection from loose roof, namely; Testing the roof, Taking down loose roof, or Timbering weak roof.

Experience has proven that failure to test the roof by sight, hearing, and by touch has been a major factor in numerous roof-fall injuries. In many cases, a casual visual examination was not enough to prevent an injury.

Probably the worst mistake being made, especially by experienced miners, is attempting to "out-guess" roof which is known to be loose. In numberous reported injuries, taking down or supporting the loose area was postponed on the assumption that the roof would hold a few minutes longer, until some small task was done. Our eyes, ears, and sense of touch can only tell us where the roof may be tight or loose, not how long it will stay in place.

(For use in underground coal-mining operations)

Systematic supports will eliminate numerous misjudgments of roof conditions. Unfortunately, the safety effectiveness of standard support methods is not fully appreciated. At least one-half of the fatalities from roof-fall injuries has been traced to the failure of not following standard roof-control plans.

I hope that each of you will remember the three "T's" of good roof-control practices; Testing, Taking down, and Timbering, and never fail to use them in performing your duties. We can and must do our part to reduce the number of roof-fall injuries. Let's each resolve not to be hurt by a roof fall.

February 1980

HOLMES SAFETY ASSOCIATION MONTHLY SAFETY TOPIC

Why Injuries?

Upon hearing of an injury, we usually ask the questions: What happened? What was the reason for the injury? Was it preventable? When the facts become known, we usually discover that this particular injury, in fact, most injuries, result from impulsive actions, bad work habits, and thoughtlessness. These factors are human traits which classifys nearly all accidents, and therefore injuries, as preventable.

An impulse is described as a force in our subconscious mind which produces sudden motion, causing an individual to perform such rash acts as venturing under unsupported roof or crossing in the path of moving equipment. But these impulses can be trained to be either safe or unsafe. If we can absorb into our subconscious mind the fear that we may be injured at any given time, our every action from then on will be to look carefully before placing ourselves in any dangerous position.

A habit is described as a condition of the mind and body by which we act naturally with great ease, comfort, and efficiency. Continued practice brings an involuntary tendency to continue these habits with more ease. Since safety depends entirely upon safe habits, it is up to all of us to see that no unsafe acts are committed when performing our various assigned work duties. This may be difficult when we analyze our habits and discover we have formed or cultivated unsafe work procedures. It takes constant corrective action to develop safe work habits. In order to build for future safety, we should continually correct unsafe habits until they are eliminated.

Finally this leaves thoughtlessness, which will be easily overcome if our impulses and habits are good. How often do we hear the phrase when an accident occurs: "Well, I didn't think," or "We thought the roof was good," or "I forgot to explain or outline the proper work procedures."

If we can come to work with our minds free from outside worries and our every move and thoughts on the correct and safe work procedures; then, bad work habits, impulsiveness, and thoughtlessness can be eliminated. All of these seem very simple,

(For use in all underground and surface mining operations) but it is good to remember that the simple things of life are often the hardest to overcome.

In the final analysis, we must be honest with ourselves and our co-workers. We all want safety and security for ourselves and our families. We should be willing to change old unsafe habits, impulsive actions, and thoughtlessness. We not only have an individual responsibility, but we truly are responsible for those we work with. They are depending on you. Your work habits will influence their freedom from accidents and injury also. We should take a better look at our work methods and our safety rules, and learn how to recognize the hazards connected with our work. We learn by analyzing, discussing, and suggesting. Keeping an open mind on suggestions to improve safe work habits and putting them into practice will do much to reduce the possibility of injuries.

Remember! Bad habits, impulsiveness and thoughtlessness lead to injuries.

February 1980

HOLMES SAFETY ASSOCIATION MONTHLY SAFETY TOPIC

Our Loading Point

There is considerable activity at the loading point, and almost every member of the crew is involved one way or another. Let's consider some important points:

1. When changing out trips, always give and receive the proper signal, and see that all workers are in the clear.

2. When pushing a trip back under the loading point in a "pull and spot" situation, determine that the track is clear of miners and equipment before starting procedures.

3. No individual or piece of equipment should approach near the track while a trip is in motion.

4. Take extra precaution around a car-spotter rope; never work alongside or over a car-spotter rope. No one except authorized persons should travel inby a car spotter.

5. Work, such as uncoupling cars, placing slides, and cleaning up, should not be done while a shuttle car is unloading or mine cars are in motion.

6. Position the shuttle car to load a uniform mine car and to avoid hanging against the trip as it is moved.

7. Any workers approaching the loading point or track for any purpose should take note of their surroundings and stay well in the clear of moving traffic.

8. There should always be good coordination around the loading point.

9. Position the shuttle car with the boom in line with the crosscut rib while changing out the trip.

(For use in underground coal-mining operations)

ABSTRACT FROM FATAL ACCIDENT

February 1980

HOLMES SAFETY ASSOCIATION
MONTHLY SAFETY TOPIC

FATAL MATERIAL HANDLING (SUFFOCATION) ACCIDENT

General Information: A front-end-loader operator died of suffocation when he was engulfed by sand and gravel as he attempted to free a hang up in a hopper.

Sand and gravel were mined by a floating dredge and pumped to a stock pile where the material was picked up by a front-end loader and loaded into a conveyor-belt-feed hopper. The conveyor belt carried the material to a screening tower where it was washed, screened, and stored in truck load-out bins.

The conveyor-belt-feed hopper where the accident occurred was approximately 12-feet deep. The top opening was 10-feet wide and 22-feet long. The hopper tapered to approximately a 3-foot square section at the bottom. Due to heavy rains in the area, the plant had not been in operation for several days.

Description of Accident: The victim and a truck driver were instructed by the superintendent to start the plant. The truck driver started the conveyor belt but the material in the hopper which had been left full for several days, was hung up and would not feed out. The truck driver said that he and the victim went out on the bridged material to prod the material loose. He also said that all employees had been warned against this practice many times by the superintendent. The material collapsed and the victim was immediately engulfed. The truck driver managed to grab the crossbeam in the center of the hopper and was covered up to his waist.

The truck driver's cries for help were heard by another truck driver who got a rope and tied it around him. The other truck driver stopped the conveyor belt and could not find the victim as he was already covered with material. The other truck driver called the mine office by radio and the dispatcher called the rescue unit.

The unit arrived on the scene within 5 minutes. The truck driver was rescued immediately but, due to the amount of material to be moved, it took 1 hour to recover the victim. He was pronounced dead at the scene, from suffocation, by the county coroner.

Cause of Accident: The accident was caused by the victim placing himself in a dangerous position by entering the hopper on top of bridged material. This was in direct violation of company rules. A contributing factor was failure of the company to provide a safety belt and line at the site.

(For use in surface mining operations - noncoal)

ABSTRACT FROM FATAL ACCIDENT

February 1980

HOLMES SAFETY ASSOCIATION
MONTHLY SAFETY TOPIC

FATAL SURFACE EXPLOSIVES ACCIDENT

General Information: An explosives accident occurred at the construction site of the extension to the refuse dump. The accident resulted in the death of a superintendent, and serious injuries to a foreman and a general laborer, all of whom were officials and/or employees of the company who was constructing the extension to the refuse dump.

Description of Accident: The victim and the foreman and the general laborer went to the drill bench to prepare the first six holes for blasting. These holes had been drilled on the previous day and water had accumulated in them.

According to the general laborer, separate charges of explosives (1 to 2 sticks of 1¼" x 8" regular gel, 60 percent dynamite with 3-to 4-inch safety fuses and caps) had been prepared to blast the water from the holes. The victim had used 13 of the "charges" and about 2:45 p.m., he was attempting to ignite the fuse of the 14th "charge" with a cigarette when it apparently exploded in his hand.

The victim was fatally injured and the general laborer and foreman who were approximately 30-to-40 feet away, were seriously injured by the effects of the blast. The mobile-drill operator, about 60 feet away, heard the explosion and saw the general laborer and foreman run past the drill. He turned and observed the fatally injured victim lying in the roadway to the drill bench and then went to aid the general laborer and foreman. The two injured men were transported by private vehicles to the clinic, where injuries were diagnosed as a contused lung and lacerated neck to the foreman, and the general laborer had lacerations of the head, neck, face, and right arm, and also injuries to the right eye and possible damages to his right ear. The victim was transported to the hospital, where he was pronounced dead on arrival.

The victim was a certified blaster and was also a certified surface foreman.

According to the general laborer, the victim had experienced difficulty in igniting the safety fuses and he instructed the general laborer to cut about one-half inch from the ends of the fuses to expose a fresh powder surface to the ignition source (lighted cigarette).

(For use in surface mining operations)

Eighteen "charged" shots of explosives were found on the drill bench with safety fuses that ranged from 3-to-4 inches in length. One to two sticks of 60 percent regular gel dynamite with a small rock taped to them were being used to blast water from the drill holes prior to preparing them for regular blasting.

The drill operator, who was located approximately 60 feet from the blasting area, stated that no warning was given prior to blasting any of the "water shots".

Cause of Accident: The accident and resultant fatality and injuries occurred because management used explosives in an extremely hazardous manner.

February 1980

HOLMES SAFETY ASSOCIATION MONTHLY SAFETY TOPIC

Portable Electric Tools

Portable electric tools make our work a lot easier for us. In fact, some of us use such tools not only here on the job but in our home workshops as well because they help us do a faster, better job. As with other kinds of equipment though, we have to observe certain precautions if we are going to use the tools with safety.

A portable electric tool consists of a housing (or frame) inside of which is an electric motor with an outside switch, a cord, and a tool chuck or head on the end of the motor shaft. A portable electric tool is a piece of rotating machinery, and this fact alone introduces some hazards. The greatest hazard is the possibility of electric shock. If a breakdown occurs in the insulation of the current-carrying parts of the tool, the full power-line voltage will be placed on the frame. The current may then pass from the frame through the body of the operator, possibly causing a fatal electric shock.

The hazard of electric shock is easily overcome by grounding the housing or frame of the portable electric tool. Then, if a breakdown in the insulation occurs inside the tool, the current will be "shunted" from the housing or frame to the ground and will not pass through the body of the operator.

Grounding is simple. Portable electric tools are now generally made with a three-conductor cord which terminates in a three-prong plug. Two conductors of this cord are the two sides of the electric circuit. The third conductor is connected to the inside of the frame or housing of the tool. In other cases, the green-grounded conductor is brought out of the cord ahead of a two-prong plug. A clip can be put on this grounding conductor so that it can be attached to an external grounded object.

If a portable electric tool has a three-prong plug and a three-wire receptacle is handy, grounding is automatically accomplished when the plug is inserted in the receptacle.

In the case of only two-wire receptacles, grounding can be accomplished by use of a separate grounding cord with a substantial clip on each end--one end to be clipped on the

(For use in surface mining operations)

third conductor coming from the tool and the other end to be clipped on the "ground". It is important that the ground conductor be securely attached to the "ground". Generally, it is safe to use cold water pipes or faucets, radiators, metallic power conduits, or a good driven ground.

A good tool deserves good care. Portable electric tools are easy to inspect, and they do not need much repairing. However, like other tools, they are subject to wear and, as defects develop, repair work should be handled promptly.

Portable electric tools do a lot of work for us. Let's treat them well and use them safely!

October through December 1979

P = Plant

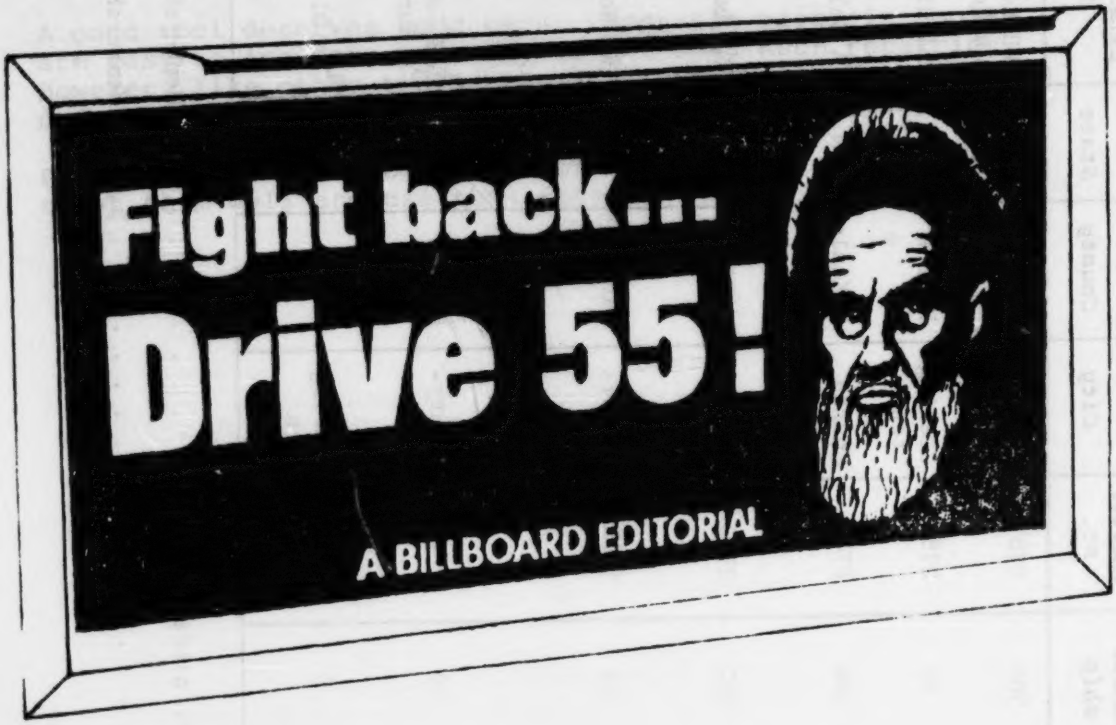
Chapter	Mine	Company	Product	U	S	P	Membership	Charter No.	City	County	State	Established By	Date	Council Affiliation
Kayenta	Kayenta	Peabody Coal Co.	coal		X		508	2787	Kayenta	Navajo	AZ	[1]WH Hoover [3]JR Correll	11/1	Nonaffiliated
Bowers Const.	Bowers Const.	Howard Bowers Cont.			X		40	2788	Clarington	Monroe	OH	[1]BA Gibbs	11/8	Nonaffiliated
Church Rock 1 East	Church Rock 1 East	Kerr-McGee Nuclear Corp.	uranium	X			100	2789	Church Rock	McKinley	NM	[3]A Galbreath	11/21	Nonaffiliated
McKinley	McKinley	Pittsburg & Midway Coal Co.	coal		X		350	2790	Gallup	McKinley	NM	[1]MD Delridge	11/19	Nonaffiliated
Arizona Office of Mine Inspectors		Arizona Office of Mine Inspectors	covers all mining operations	X	X	X	24	2791	Phoenix	Maricope	AZ	[1]WH Hoover	12/3	Nonaffiliated
Calvert& Young	Calvert & Youngblood	Calvert & Youngblood Coal Co.	coal		X		45	2792	Countyline	Blount	AL	[1]JH Johnson [3]A Burgett	12/12	Nonaffiliated
Miner-1 Training Facility	Miner-1 Training Facility	Miner-1 Training Facility	coal	X			5	2793	Clarington	Monroe	OH	[1]BA Gibbs	12/14	Nonaffiliated

Total chapters established during the fourth quarter of 1979 . . . . 7 - Membership - 1,072

Total chapters nationwide . . . . 1,428 - Membership - 208,325

February 1980

Your Safety


Fight back...
Drive 55!
A BILLBOARD EDITORIAL

FEBRUARY

February is the birth month of two of our great presidents.

Day before yesterday we recognized the birth of a great leader, George Washington. He brought this great country of ours through the peril and hardship of the Revolutionary War, winning that war and going on to become our first president. This great accomplishment, history will tell us, could not have been possible without thorough and meticulous planning.

Thorough and meticulous planning is also necessary in the promotion of health and safety in the mineral industries of our nation. Correct planning for safety to conserve manpower will help us to win our wars (cold or hot) and prevent peril and hardship in the industrial workshops of this great land of ours. Keep strong by working safe.

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BULLETIN

United States Department of Labor
MSHA
Mine Safety and Health Administration

L 38.12:

March 1980

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WINNERS vs LOSERS

THE WINNER	IS ALWAYS PART OF THE ANSWER.
THE LOSER	IS ALWAYS A PART OF THE PROBLEM.
THE WINNER	ALWAYS HAS A PROGRAM.
THE LOSER	ALWAYS HAS AN EXCUSE.
THE WINNER	SAYS "LET ME DO IT FOR YOU."
THE LOSER	SAYS "THAT'S NOT MY JOB."
THE WINNER	SEES AN ANSWER FOR EVERY PROBLEM.
THE LOSER	SEES A PROBLEM IN EVERY ANSWER.
THE WINNER	SEES A GREEN NEAR EVERY SAND TRAP
THE LOSER	SEES TWO OR THREE SAND TRAPS NEAR EVERY GREEN.
THE WINNER	SAYS "IT MAY BE DIFFICULT BUT IT'S POSSIBLE."
THE LOSER	SAYS "IT MAY BE POSSIBLE BUT IT'S TOO DIFFICULT."

BE A WINNER

March 1980

HOLMES SAFETY ASSOCIATION MONTHLY SAFETY TOPIC

THE SAFETY CIRCUIT CENTER

Today we want to discuss a piece of safety equipment on our section that protects us from certain electrical hazards and reduces the potential for mine fires. Of course, I'm referring to the safety circuit center or "breaker box."

The breaker box has been designed to automatically remove power from a circuit in the event of an overload or electrical ground in either the cable or machine.

Safety circuit centers are rugged devices and will withstand some ill treatment and rough handling, but there is a limit to its capacity for abuse.

In order for this device to properly perform its safety function, there are certain procedures or good work practices that should be followed at all times, such as the following:

1. When moving the breaker box to a new location always use the handles or pull on the frame. Never pull on the ends of the cable at the entrance to the box. The cable is designed to carry electricity and not to be used as a handle.

2. Make good, strong cable splices. Any job worth doing is worth doing well. The splice should be properly insulated and all exposed wires covered as protection against moisture.

3. Frame ground to be securely fastened to the rail or return ground line insuring protection to the operators against electrical shock.

4. In the event the safety circuit center "knocks the power" to your equipment, locate and correct the problem. Never be guilty of setting up the condition for a mine fire by connecting the cable straight to the power without the benefit of a safeguard.

The most useless and unnecessary occurrences in mining are fires and explosions. Do your part to reduce these hazards by properly caring for the safety circuit center.

(For use in all mining operations)

March 1980

HOLMES SAFETY ASSOCIATION MONTHLY SAFETY TOPIC

WHAT DOES SAFETY MEAN?

SAFETY means a way of life and a way to live.

SAFETY means looking out for others as well as yourself. Don't leave safety to the experts.

SAFETY means being alert to what could happen and preventing it.

SAFETY means you should leave a margin for error. Never take a chance.

SAFETY means use of proper equipment. Wear it, use it. Safety is common sense.

SAFETY doesn't just happen. It is achieved by people........thinking SAFETY.

CAUSE AND CURE

ACCIDENTS are caused.

If you've heard those words once you've heard them a thousand times, right? You hear them at safety meetings and see them on posters. But did you ever give very much thought to just exactly what they mean?

The meaning can be made clearer by adding just three words. Accidents are caused--by human faults!

What are these human faults? Lack of knowledge or training, fatigue, recklessness, stubborness, laziness, haste, and failure to provide adequate safeguards, just to mention a few.

One thing is evident. Such human faults can be corrected and accidents can be cured--by you!

(For use in all mining operations)

March 1980

Session LXX

HOLMES SAFETY ASSOCIATION MONTHLY SAFETY TOPIC

Federal Mine Safety and Health Act of 1977

Section 303(p)

Part 75.317 of the Code of Federal Regulations

Maintenance of Detecting Devices

Section 303(p) of the Act (Part 75.317 of the Federal Register) requires that each operator shall provide for the proper maintenance and care of devices for detecting methane and oxygen deficiency, including flame safety lamps.

The person(s) designated by the operator to maintain and care for permissible flame safety lamps and other devices for detecting methane and oxygen deficiency shall be trained in the maintenance and care of each such device that is used in the mine. Extreme care should be taken to insure that all detectors are in permissible condition before being carried and used underground. After flame safety lamps have been used underground for a shift or less, they are to be removed from service, checked, serviced, cleaned, and tested before they are again taken underground. Permissible methane-detecting equipment, other than flame safety lamps, is to be calibrated periodically for accuracy in a known methane-air mixture at least once a month or at intervals not exceeding 31 days.

It is very important that all gas-detecting devices be properly maintained and in permissible condition at all times. Bureau of Mines records indicate that between July 1952 and January 1970, there were 17 recorded ignitions and explosions that were attributable to defective flame safety lamps. During the occurrence of the 17 ignitions and explosions, five miners were killed and 25 were injured. There have been no recorded ignitions or explosions that were originated by properly assembled, well-maintained flame safety lamps. To date, there have been no recorded ignitions resulting from permissible battery-powered methane detectors.

(For underground coal-mining operations)

Each miner who carries a flame safety lamp or other detector should make a thorough visual examination of his flame safety lamp or detector before taking it underground. The average miner using a flame safety lamp that is well maintained, despite claims to the contrary, is unable to measure methane in the mine atmosphere at low percentages, except under ideal conditions that are not normally found in the mines. All persons who are required to make tests with flame safety lamps and electrical methane detectors are required to become qualified in their use by receiving instructions according to MSHA instructional guides. (A demonstration by the instructor should be given at this time in the proper care and use of detectors being used in this mine.)

March 1980

HOLMES SAFETY ASSOCIATION MONTHLY SAFETY TOPIC

THE SUPERVISOR AND RESPONSIBILITIES

How many of you have given some thought as to the duties and responsibilities of a supervisor?

It is the supervisor's duty to use to the best advantage the resources the company has placed at his disposal, such as equipment, supplies, and tools, and to comply with company policies.

To accomplish all this requires considerable doing, for in addition to company responsibilities, a supervisor has an obligation to those he works with as well as many legal responsibilities.

Since you are the actual producers, your welfare and performance must receive first consideration, and the supervisor must make every effort to maintain good working conditions and see to it that machines and equipment are in a safe and proper working order. These, of course, are the critical factors. Supervisors are obligated to see that your jobs are performed in a manner and environment in keeping with safe and efficient standards. To do this properly, the supervisor must understand each job in order to realize the hazards involved and assist in the planning of the safest procedures. Your advice is needed and desired for every source will be explored that might give information on safe standards and practices.

Most supervisors believe that the best way to prevent accidents is training and "on-the-spot" correction of substandard performances and substandard conditions. If they ignore violations of safety standards and allow substandard conditions to exist without correction, what will be the end result? Someone will be injured. This neglect of duty would be a reflection on their ability as supervisors and as responsible citizens.

It is the obligation of the supervisor to help develop safety thinking in the crew so that each will acquire safe working habits. Many of our habits are developed by watching the actions of other people, so it is the supervisor's duty and responsibility to be a model of safety.

Often a supervisor must exercise their best judgment in choosing the procedures to be used and methods to be followed. Naturally, decisions concerning many different things will need to be made, some without much information available and often on the "spur of the moment."

(For use in all mining operations)

These decisions may not always be the best or the most popular but they are the supervisor's alone to make. In making these decisions, a supervisor must consider all situations as they are at the time, or will be in the future, and how the other phases of his responsibilities will be affected.

One of the major responsibilities of a supervisor is that of having each miner accepted as a full-fledged member of the crew in order that the work will be both satisfying to the miner as well as a means of making a living. Naturally, this requires a lot of cooperation and understanding from everyone in the crew. A crew expects, and rightly so, loyalty from their supervisor if everyone is to perform his job in a satisfactory manner. If a supervisor is to be any benefit to the company, he must recognize the miners as individuals in order to develop the cooperation and teamwork that is so necessary for the successful performance of a job. If there are any minor frictions between individuals, the supervisor must learn to recognize them, find out the trouble, and correct them, if possible. Life is so much more pleasant for all of us when we get along with everybody, and cooperation results in a crew being more safe and productive.

Conditions in the mine are constantly changing, some good and some bad, which affect our safety, our production, and require that decisions be made. Attitude and general outlook concerning your jobs are also subject to changes which again affect all of us. As individuals, we must meet these changes with an open mind, keeping in mind our various responsibilities and obligations.

March 1980

HOLMES SAFETY ASSOCIATION MONTHLY SAFETY TOPIC

ELECTRICIANS AND MECHANICS

In a previous meeting we talked briefly concerning two aspects of the varied duties of electricians and mechanics, roof control and handling of machinery. Today we will discuss proper lifting procedures, safe blocking of equipment, and a short briefing on hand tools.

The majority of the objects that you handle are heavy and, quite often, are difficult to position when placing onto a piece of equipment that is undergoing repairs. There are enough people on the section to give you the assistance needed to safely handle these heavy and awkward lifting duties. We appreciate your eagerness to get a piece of equipment back into production, but all repairs should be performed in a safe manner. Proper lifting will do much to reduce the number of back injuries that, too often, appear in our accident report.

Still another subject for our discussion is the necessity of proper blocking of equipment while it is undergoing repairs. Safe blocking of machinery is even more critical when it is necessary for you to have a part or all of your body beneath any portion of the equipment. Sudden shifting of the equipment for even a few inches could prove to be fatal. Loading booms and heads of loading machines and continuous miners should be blocked in such a manner that there can be no possibility of their falling.

You are aware that the power should be removed from the equipment before these repairs are started. There will be occasions, however, when it is necessary for the power to be on the machinery in order for some electrical features to be checked. Good judgment is of prime importance when performing your duties under these circumstances. No other type of work should be permitted or performed on the equipment when the power has been connected for you to inspect an electrical feature. Persons in the area should be warned to stay clear in the event the equipment might move or start to operate with no one at the controls. The controller in the "off" position does not remove the possibility of the machinery operating due to a malfunction, such as a "grounded" coil.

The proper use of hand tools is also important in the performance of your job. This may appear to be a minor feature of your job, but reports indicate that many serious injuries have resulted from the improper use of hand tools. As one example, a wrench, improperly

(For use in all mining operations)

seated due to incorrect size or type, could slip and produce a chain reaction that might prove fatal to you or some other person in the immediate vicinity. The subject of hand tools will be dealt with in more detail in future meetings, but for the present, heed this good advice: Use proper tools for the job.

March 1980

HOLMES SAFETY ASSOCIATION MONTHLY SAFETY TOPIC

ELECTRICITY - ONLY FOR ELECTRICIANS

Today we are concerned with why we should leave electricity to the electricians. Most of you haven't had the proper training to perform these jobs in a safe manner, and could make mistakes that might prove fatal. We use a lot of electricity in our work, and it can be deadly if misused. You aren't supposed to be electricians and to know how to make electrical repairs, but there are certain facts you should know to protect yourself against electrical shock.

The fist point to remember is that it isn't the amount of electricity in a circuit that makes the difference between life and death, but the amount of current that runs through the vital parts of your body. The only difference between high voltage and low voltage is that the higher the voltage the better the possibility of your being killed if you come in contact with it. Even 50 volts have been known to kill when conditions were right, so don't be fooled by low voltage.

Electricity in any wire can be thought of as always moving from positive to negative or return in a closed circuit with the insulation keeping the electricity flowing in the conductors.

Suppose we attempt to see what develops when someone touches a wire carrying 110 volts. If their hand is dry and clean and they are standing on something that has a high resistance to the flow of electricity and is not touching any grounded metal, the possibility is good that the total resistance through them will be so high that no more than a slight tingle will be felt. But if they are hot and sweaty and standing on a grounded metal surface, their resistance will be so low that enough current will flow through to render them unconscious. Death could result if artificial respiration is not given at once.

Another possibility is that you may get only enough current to paralyze your muscles, and you would be unable to get loose. When this happens, it is likely the shock would be severe enough to be fatal.

You can see that the quicker the current is shut off, the better a victim's chance of survival. If you happen to be nearby when someone is caught in this predicament, use good judgment in rescuing them. Remove the power, if possible, but if it is quicker to free them by other methods, be sure not to get caught yourself.

(For use in all mining operations)

Following are some suggestions that will help keep you safe from electrical hazards:

1. If any electrical device or piece of equipment starts to give off sparks, overheats, or smokes, make no attempt to repair it yourself, but instead, shut it off and report the incident to the supervisor or the electrician.

2. Stay away from all electrical switches or other protective devices unless you have been authorized to handle them and instructed in their use.

3. If you are authorized to replace fuses or any other protective device, follow the operating instructions you have been given. Never bridge a fuse. The fuse is your best safety device on any electrical circuit.

If you follow these safety rules and operating instructions, the possibilities of electrical shock accidents will be greatly reduced.

Do not tackle any electrical job you haven't been assigned to, and then do the job in the manner in which you have been trained.

March 1980

ABSTRACT FROM FATAL ACCIDENT

HOLMES SAFETY ASSOCIATION
MONTHLY SAFETY TOPIC

FATAL FALL-OF-MATERIAL ACCIDENT

General Information: A truckdriver died of a heart attack as a result of an accident in which he was buried with sand while trying to clean material from a conveyor system.

Description of Accident: The victim reported for work at his normal starting time. Work proceeded normally until the Euclid truckdriver parked his vehicle under the shaker screen. He observed that the system was not feeding very well. The truckdriver went to check the feed chute area and found two large sand rocks wedged and holding the sand from feeding onto the conveyor belt. The truckdriver signaled by hand signal to a front-end loader operator, that the conveyor system was plugged and not to dump any more sand into the feed chute. The truckdriver with the conveyor in operation, began to scale the banks. As the banks caved off, the falling sand knocked the scaling bar from his hands, the bar penetrated the conveyor belt, and wedged between the belt, a conveyor roller and the brace of the sand feed control gate. The victim arrived on the scene at this time and the truckdriver told the victim to shut off the power to the conveyor. Without the equipment being locked out they both entered the feed chute and tried to dislodge the scaling bar. Work proceeded in this manner for about 10 minutes.

At the same time, a loader operator was stockpiling sand to be placed into the feed chute when the blockage was cleared. The loader operator inadvertently, due to a habitual response, dumped a bucket of sand into the feed chute where the victim and the truckdriver were working. The victim was completely covered by the sand and the truckdriver's right leg was buried up to his crotch. As soon as the accident happened, the truckdriver started digging with his hand and he had the victim's face and head uncovered within a few seconds.

As soon as the loader operator realized what had happened, he stopped the loader and ran to the feed chute. By the time he arrived, the truckdriver had the victim's head uncovered. The loader operator then went for help and called an ambulance and the rescue squad.

At the time the rescue squad and ambulance arrived, the employees at the mine had the truckdriver and the victim freed from the sand. The men were checked by the rescue squad and transported by ambulance to the hospital. Both men were checked by the doctor on duty.

(For use in surface mining operations - noncoal)

Both men were released from the hospital. The truckdriver was allowed to return to work. The victim was advised to take 10 days off before returning to work.

The next day the victim was found dead on the floor of his home. The coroner attributed the death to a heart attack caused by the compression of the chest and the bruising of the heart muscles due to the weight of the sand he had been covered with during the accident on the previous afternoon.

Cause of Accident: The direct cause of the accident was the failure to use safety belts and lines and having a second person tend the lines while persons are working in feed chutes. If the man had been wearing a safety line with a person in attendance on that line, the accident would have been avoided. The person in attendance would have stopped the loader operator from dumping sand into the feed chute. A contributing cause of the accident was the daily routine of the loader dumping into the feed chute so that the work became a conditioned response instead of a work procedure.

Recommendations: Safety belts and lines shall be worn when work is performed where there is a danger of falling; a second person shall tend the life line when bins, tanks, or other dangerous areas are entered.

Electrically-powered equipment shall be deenergized before mechanical work is done on such equipment. Power switches shall be locked out or other measures taken which shall prevent equipment from being energized without the knowledge of the individuals working on it.

March 1980

ABSTRACT FROM FATAL ACCIDENT

HOLMES SAFETY ASSOCIATION
MONTHLY SAFETY TOPIC

FATAL ELECTROCUTION ACCIDENT

General Information: A contract truckdriver was electrocuted when the bed of the trailer he was raising came in contact with a 7,200-volt overhead powerline. The victim had approximately 7 years experience as a truckdriver, 1 year with his current employer.

The mine was an open-pit limestone mine. A multiple-bench method of mining was used to produce limestone and aggregate lime. Blasted material was hauled from the quarry, crushed, screened and stockpiled by conveyor and trucks.

A Ford, 9000, diesel tractor, operated by the victim, (pulling a 28-foot end-dump trailer) was involved in the accident.

The ground area where the accident occurred was very moist from other truckdriver's washing out the beds of their trucks and water placed on the ground for dust control.

Description of Accident: The victim and a coworker and driver of a similar truck, had been hauling aggregate lime. They had arrived at the office and the coworker stated that the victim told him he was going to the restroom. The coworker proceeded to the area where they washed the beds of their trucks. The coworker backed his truck in, raised the bed and started washing out the bed of his truck. The coworker stated it was normal for them to do this after hauling aggregate lime before switching to other materials.

The coworker further stated he was standing at the back of his truck when the victim backed his truck in beside his on the left side. The bed on the victim's trailer started to raise and the victim walked to the rear of his trailer and tripped the tailgate. He then went back toward the tractor. The coworker stated he heard the motor speed up and saw the bed raise up. He heard a noise and saw the tires of the victim's trailer on fire. He threw down the hose he was using and went around the victim's trailer to see what was going on. This is when he saw the victim lying on the ground beside the tractor, on the driver's side, on his back with his legs near the rear wheel of the tractor. The coworker saw that the tires near the victim's legs were on fire. He grabbed the victim by both arms and pulled him away from the tractor because of the fire. He yelled for an employee working in the area to call for an ambulance and told another employee to bring him a board that was dry. He used it to lower the bed of the trailer that was touching the overhead powerline.

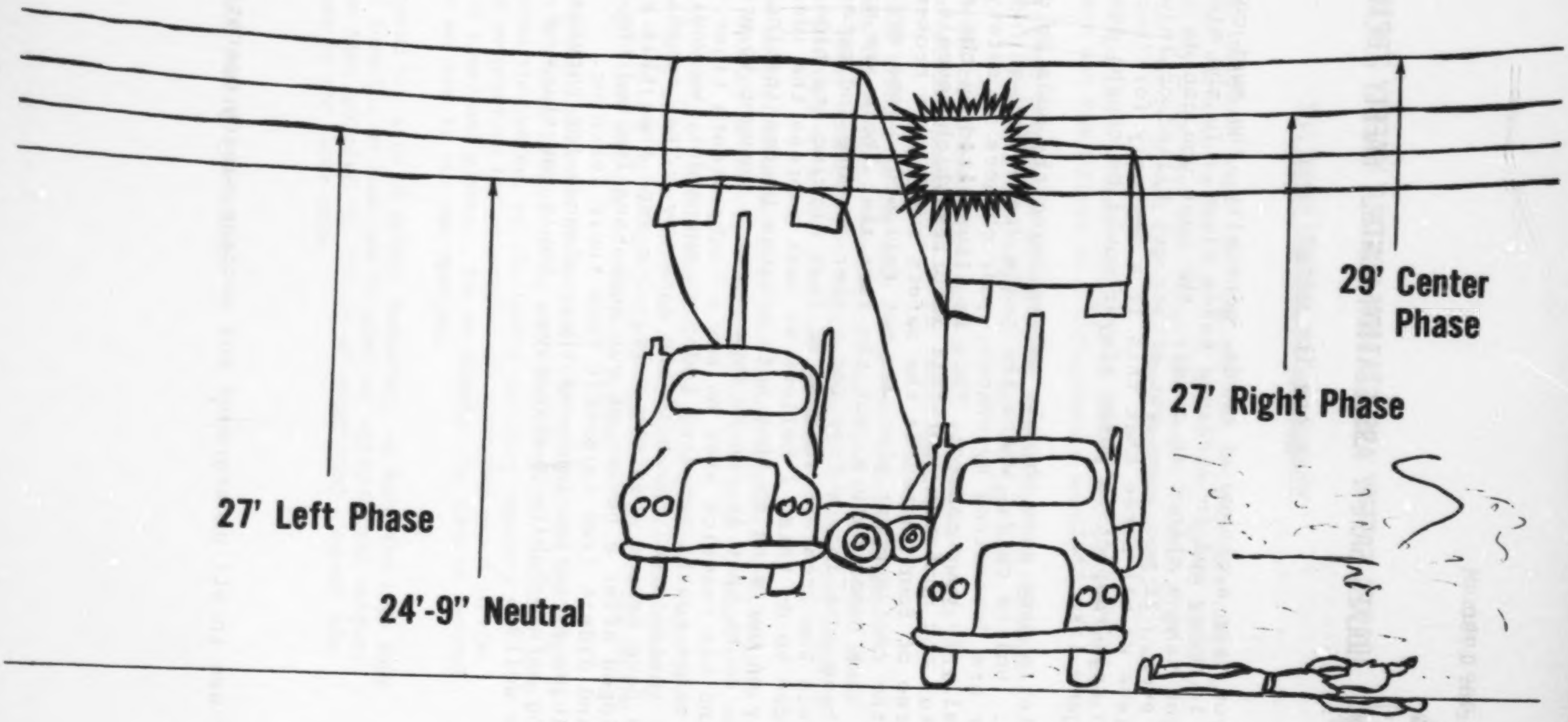
(For use in surface mining operations - noncoal)

Attempts to revive the victim using CPR failed. The ambulance attendants attempted to revive the victim using the bagmask and heart compression method. He was pronounced dead on arrival.

The victim was electrocuted when he apparently stepped from the tractor to the ground while holding onto metal parts of the tractor or trailer.

Cause of the Accident: The cause of the accident was the victim's failure to recognize the 7,200-volt powerline and raising the bed of his trailer into contact with it.

Recommendations: Hoses for washing out truck beds should be placed in areas away from overhead powerlines. Highly visible markers should be placed on all overhead powerlines where they could be seen. (See sketch).


29' Center Phase
27' Right Phase
27' Left Phase
24'-9" Neutral

March 1980

HOLMES SAFETY ASSOCIATION MONTHLY SAFETY TOPIC

What Are The Odds?

When you take a chance at cards, generally, the most common stake is money and an exchange takes place. In the mine, when you take a chance on safety, the best you can do is break even. If you lose, you either get killed or injured. I believe we all agree that this is a bet only for "suckers," and no self-respecting poker player would be caught dead in a game like that.

Now, let's give some thought to improving the odds in our favor. Unlike cards, where the hands drawn from an honest dealer are determined by chance, your chances in safety are generally in your control. This is illustrated by the record of fatal and nonfatal roof-fall injuries which reveals that in three of four instances the safety rules were broken in that the roof-support plan was not followed. Some say we can't lick human nature, but the fact that there are mines that have gone injury free for a year or more indicates we can skin the creature instead of just nicking its hide. In order to do this, I believe we must impress the idea of safety on our mind so that safe actions become instinctive. If you doubt that it can be done, give a thought to primitive man and his reaction when he saw a "sabre-tooth tiger." If "old sabre tooth" appeared today in our midst, we would react instinctively much in the same way. That reaction would have become a safety rule. I'm sure that this rule developed after a number of our ancestors learned the hard way and didn't live to profit from their learning. Primitive societies improved their chances for survival by making safety habits instinctive. Don't you think we can do as well?

(For use in all underground and surface mining operations)

March 1980

HOLMES SAFETY ASSOCIATION MONTHLY SAFETY TOPIC

THE HUMAN SPECIES--ENDANGERED?

There is an insidious logic that implies that society must adapt to machines, not machines to society; that production, speed, novelty, progress at any price must come first, and people second; that mechanization may be pushed as far as human endurance will allow.

It ignores experience - which tells us we should not add new strains and pressures and discomforts to a high-pressure world.

Certain brilliant people are so engrossed in engineering techniques that they have seemingly lost sight of their own species.

Our goal should be to accomplish both a full production and a full life. . . a national prosperity of the human spirit.

Gross National Product is our Holy Grail; the economists and statisticians its keepers. Statistics concerning auto output, steel production, heavy construction, housing starts, freight-car loadings have become the indices of the American advance.

Yet, we have no environmental index, no census statistics to measure whether the country is more or less liveable from year to year.

A tranquility index, a cleanliness index, a privacy index, might have told us something about the condition of society, but a fast-growing country bent on piling up material things has been indifferent to the "little things" that add joy to everyday living.

Despite the amazing advances of science, the approach to our overall world effort at human betterment is most unscientific. We have long since perfected the concept of the land's carrying capacity for animals, and we practice the principles of sustained yield in the management of trees and plants. Yet we abandon the idea of natural balance when we come to our own species.

We have mastered the arts of animal husbandry, we know the life laws of crops and insects, we know how to plan our agricultural output. In effect, we have enhanced the future of everything - except the overall future of the human race.

(For use in all mining operations)

The time has come for us to evolve an ecology in harmony with the constantly unfolded ecologies of other living things. We need a science that will seek to determine the interrelationships of life, interrelationships whose understanding will enhance the human condition.

One could contemplate the United States a century from now with equanimity if our growth rates and growth patterns reflected a mature, purposeful national will. Arrogant events and the headlong pace of material progress have left us little time to ask what people are for, or to agree on long-term societal aspirations. We have learned neither how to grow nor at what pace, and that is our failing and our future trouble.

If we are to establish the secure foundations of an equal-opportunity society and master the sensitive arts of building a life-encouraging environment, than at this moment in history we need to realize:

BIGGER IS NOT ALWAYS BETTER; SLOWER MAY INDEED BE FASTER; LESS MAY WELL MEAN MORE.

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Education and Training
P.O. Box 25367
Denver, Colorado 80225

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HOLMES SAFETY ASSOCIATION
SAFETY EFFICIENCY
MINERAL INDUSTRIES

BULLETIN

United States Department of Labor
MSHA
Mine Safety and Health Administration

L38.12:

April 1980

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April 1980

HURRY....HURRY.......
HURRY!

NEWS BRIEF

ANNUAL MEETING OF THE HOLMES SAFETY ASSN., WILL BE HELD AT QUALITY INN/CENTRAL, 1190 COURTHOUSE ROAD, ARLINGTON, VA. 22201 WEDNESDAY, MAY 28, 1980, 10 a.m.

LODGING. FOOD. DRINKS. MEETING ROOM ALL AT ONE LOCATION 4 BLOCKS FROM SUBWAY.

THE J.A.H.S.A. WILL MEET SAME TIME AND PLACE THE NEXT DAY.

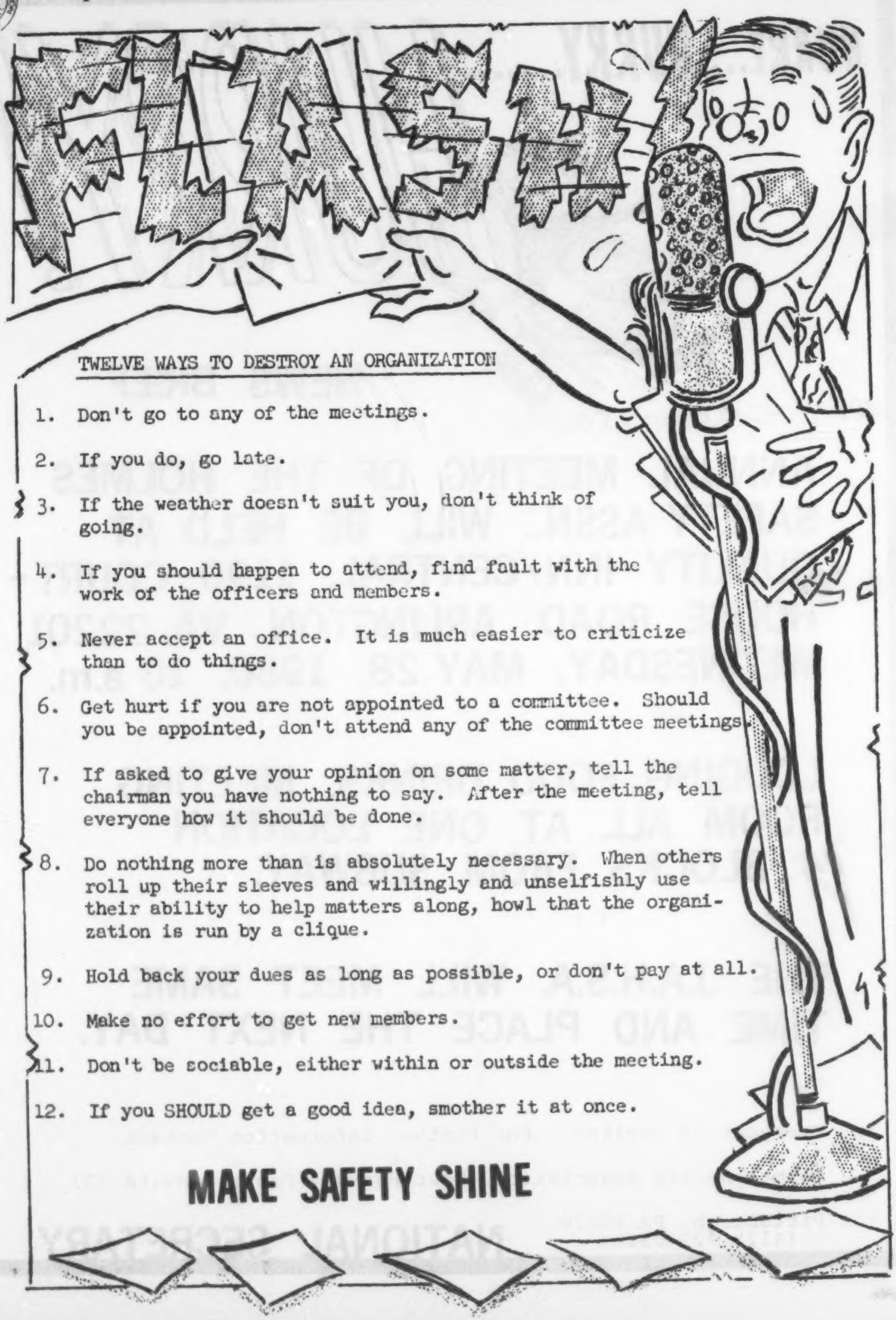
Everyone Is Invited. For Further Information Contact

Holmes Safety Association, Four Parkway Center, Suite 102,

Pittsburgh, PA 15220
(412) 922-0220

NATIONAL SECRETARY

April 1980



TWELVE WAYS TO DESTROY AN ORGANIZATION

1. Don't go to any of the meetings.
2. If you do, go late.
3. If the weather doesn't suit you, don't think of going.
4. If you should happen to attend, find fault with the work of the officers and members.
5. Never accept an office. It is much easier to criticize than to do things.
6. Get hurt if you are not appointed to a committee. Should you be appointed, don't attend any of the committee meetings.
7. If asked to give your opinion on some matter, tell the chairman you have nothing to say. After the meeting, tell everyone how it should be done.
8. Do nothing more than is absolutely necessary. When others roll up their sleeves and willingly and unselfishly use their ability to help matters along, howl that the organization is run by a clique.
9. Hold back your dues as long as possible, or don't pay at all.
10. Make no effort to get new members.
11. Don't be sociable, either within or outside the meeting.
12. If you SHOULD get a good idea, smother it at once.

MAKE SAFETY SHINE

April 1980

HOLMES SAFETY ASSOCIATION MONTHLY SAFETY TOPIC

FINER SUPERVISON

You can fill a library chock-full of the material that's been written on the supervisors role in industrial safety. Today let's concentrate on just one outstanding fact: If supervisors really fill their shoes, you can bet your life that they throw their full weight into the "push" to prevent accidents.

Why? By pitching wholeheartedly into the promotion of safety, the supervisor is achieving many vitally important things that are expected.

Assuming rightful responsibilities, supervisors who are worth their salt know every possible hazard in their department as well as every operation. They are in the most logical position to weed out danger, and to correct unsafe conditions and practices. It's their job.

Supervisors take steps to insure keeping pace with the production schedule.

They must also see to it that the department functions properly for the proper way can only be the safe way.

The supervisor is driving for full efficiency--for efficiency depends upon accident-free operations. Here and there fair-grade efficiency may exist momentarily, in spite of weak-kneed safety efforts. But such efficiency has pure luck for its foundation; it lives on borrowed time!

Finally, supervisors must prove that they are big enough to fill this important position by promoting the best interests of the employer, the employees and the supervisors. Boosting production--the supervisor is insuring productiveness, welfare, and happiness for others--and proves to be a fit leader.

Supervisors who assign their safety responsibilities to the "bottom deck drawer" of their attention are dragging their own supervising abilities down to the same level. All earnest safety promoters may not necessarily be top-level supervisors--but it's a cinch that all top-level supervisors are safety conscious.

Everywhere, everyday, people go about their tasks without weariness if they are supported by enthusiasm and believe in what they are doing.

(For use in all mining operations)

SAFETY IS EVERYBODY'S BUSINESS

April 1980

HOLMES SAFETY ASSOCIATION MONTHLY SAFETY TOPIC

HAVE YOU THOUGHT ABOUT YOU?

Have you ever thought about the price that is paid for about ten seconds of inattention?

Consider the following true experience: A continuous-mining machine was moved from a crosscut to the entry and bits were being replaced in the augers. The chain and belt conveyors that carried the material from the machine were stopped. When preparations were completed, the conveyors were started which was normally considered a signal for starting the mining machine. At this time a laborer was shoveling material near the augers when they were started. The laborer turned to put the shovel aside when he lost his balance and fell backward. The bits on the auger caught his lamp cord pulling him closer and dragging him under the auger before the machine was stopped. You can imagine what took place. A cry of pain, frantic movements to free the victim, and a sober deliberate trip to the surface and waiting ambulance. A half-hour later near the closed doors of the operating room a woman sobbed, while inside a surgeon, assisted by an intern and several nurses, gave skillful care. After a while the surgeon emerged and told the woman, "He'll pull through", and also spoke in a lowered voice to a buddy of the injured man, "What a fearful price to pay".

A fearful price it was. Weeks of agony passed for the man and weary days and sleepless nights of worry for the woman. Then came the money pinch. Despite the compensation payments, the savings account melted to nothing, and when the worker was discharged from the hospital, it was a case of starting all over again. Starting all over again meant in this instance, that the victim was unfit both physically and mentally, to do what it took years to learn. To be sure, the man obtained work that he was capable of doing, but at a much lesser pay than he received prior to the injury. House payments could not be met and it had to go eventually. There was no opportunity to lay anything aside for a rainy day. The parent's plans for an education for their children and better things for them with an education were hopelessly gone. The best they could do was make a living. The children left school as soon as they could get work, and with good cooperation among the members of the family; they now "manage to get along."

The surgeon was right when he said, "What a fearful price to pay".

What can we hope to learn from this experience? I believe that it is this: Operators of equipment, regardless of type or function, should always determine that everyone is in a safe location before the equipment is put into operation. A simple rule, to be sure, but one that will definitely reduce injuries related to machinery.

SAFETY IS EVERYBODY'S BUSINESS

(For use in all mining operations)

April 1980

HOLMES SAFETY ASSOCIATION MONTHLY SAFETY TOPIC

HELP YOUR HEART

In today's meetings, we are concerned with a subject that definitely affects each of us in a very positive manner. I am referring to heart attacks and certain of our individual personal habits and their relation to our well-being and longevity.

While it is true that some people are in more danger of suffering a heart attack than others, it is also true that recognizing the factors that cause heart attacks, and correcting them can help to reverse the situation.

Some of the causes are: high blood pressure, high cholesterol level, overweight, excessive eating, too little exercise and physical activity, diabetes, excessive cigarette smoking, tension, and heredity. Should you have any one of these, the chance that you will have a heart attack is two to six times greater than that of the person who doesn't have any of these "symptoms".

One of the best ways to prevent heart disease is by controlling your diet. This prevents extra strain on your heart caused by excessive weight, and it also cuts down on the production of cholesterol.

A noted heart specialist recently stated: "Adult people must learn to distinguish between moderation and abuse. Two packs of cigarettes a day to me is an abuse. Too much fat or too many calories is an abuse. Drinking during most hours of the day is an abuse. Doing no physical work is an abuse. The answer lies in self-disciplining--not in forbidding."

You are familiar with the expression "Moderation in all things", and it certainly is a philosophy of life that will be worthy of our adoption to help our heart.

(For use in all mining operations)

SAFETY IS EVERYBODY'S BUSINESS

April 1980

HOLMES SAFETY ASSOCIATION MONTHLY SAFETY TOPIC

WHAT IS YOUR MARKET VALUE?

It has been written that the commercial value of a human body is approximately $25. The basic elements which could be derived from a human body are as follows:

Enough Water to fill a 9-gallon container

Enough Sulphur to deflea one dog

Enough Fat to make nine bars of soap

Enough Iron to make one medium-size nail

Enough Lime to white wash one chicken coop

Enough Phosphorous to make 20 match heads

There are a few additional elements, but they would have little or no value. Why then should anyone worry about the safety of a human body with a commercial value of only $25? The answer, of course, goes beyond the commercial value and deals with the heart and soul of mankind upon which there is no value great enough to cover its worth. For instance:

The value of a human to those around him especially to his immediate family.

The value of love and understanding and the pleasure derived through association with others both on and off the job.

The value of guiding the family in fulfilling their moral and spiritual obligations.

These are the things that prevent placing a valuation on the human being.

Therefore, isn't it important that we humans do all in our power to prevent an accident from crippling us or, in some instances, taking our lives? If you agree to this, and we are sure you do, then may we suggest you start now to take every known step in accident prevention. This will require that you work safely and remove or report any unsafe working conditions.

(For use in all mining operations)

SAFETY IS EVERYBODY'S BUSINESS

April 1980

HOLMES SAFETY ASSOCIATION MONTHLY SAFETY TOPIC

First Aid--Artificial Respiration

Artificial respiration is a method by manual movements to induce breathing in persons whose respiration has stopped.

The most frequent conditions under which artificial respiration is required are electric shock, gas poisoning, drowning, and suffocation. Time is of utmost importance. Do not take time to move the person to a different location unless the place is unsafe.

If artificial respiration is to be successful, it must be started as soon as possible after breathing has stopped. If someone is with you, let that person loosen tight clothing, find a blanket to keep the person warm and call for help. You haven't time.

There are several methods of giving manual artificial respiration, but the one that we will discuss is the Holger-Nielson method, often referred to as the back-pressure arm-lift method. This method gives the largest exchange of air and should be used wherever possible. The Shafer (prone-pressure) method of artificial respiration is used when a person has injured arms that cannot be raised. The Silvester method is used when an individual cannot be placed on their stomach or has severe back injuries.

Following is a brief description of the procedures for giving the Holger-Nielson method of artificial respiration:

1. Place the victim face down with head turned to one side and cheek on one hand. Make sure that both the mouth and throat are free from obstruction. If the victim shows any tendency to swallow the tongue, clamp it forward with something.

2. Kneel at the head of the victim on one or two knees. It may take as long as 5 or 6 hours to revive the victim, so take the position that will enable you to continue the longest.

3. Fan your hands out in front of you, the tips of your thumbs together, place them on the victim's back just below the shoulder blades. Rock forward on your knees to exert a steady gentle pressure quickly without giving a push, just flex your elbows.

(For use in all mining operations)

SAFETY IS EVERYBODY'S BUSINESS

4. After you have released the back pressure, rock back on your heels and run your hands up the victim's back and out along the arms until you are able to grasp them halfway between the shoulders and elbows. Move backward lifting the victim's arms up and towards you.

5. Pull just hard enough to feel resistance and tension in the arms. Rock forward again, and as you move, lower the victim's elbows to the ground. Run your hands along the arms and place them on the back again just below the shoulder blades. Continue moving forward with your elbows straight until the weight of your body is supported again by your hands.

6. Release the pressure and repeat the arm-lift phase. It should take about 2 seconds from the time you release the pressure on the victim's back until you release the pull on the arms. A complete cycle should take from 5 to 6 seconds. Repeat rhythmically 10 to 12 times per minute.

7. You may change your position at any time during the operation. Do this without breaking the rhythm. Continue artifical respiration until the victim is breathing steadily and strongly by themself.

8. At first the breathing will consist of a few occasional gasps. Adjust the rhythm of your movements as the victim's breathing becomes more regular. If breathing fails, return to the 12 cycle rhythm until breathing commences again. Help the victim breathe until you are certain that breathing is regular and strong.

A good suggestion is to study your first-aid manuals regarding these procedures and to participate in any first-aid training available.

April 1980

ABSTRACT FROM FATAL ACCIDENT

HOLMES SAFETY ASSOCIATION
MONTHLY SAFETY TOPIC

FATAL ELECTRICAL ACCIDENT

General Information: A lead-heavy-duty mechanic was electrocuted in a lower crawl hole of a 10-yard P & H shovel when he inadvertently contacted a collector ring energized with 4,160 volts. The victim was employed for 28 years, the last 8 years as a lead heavy-duty mechanic.

Another heavy-duty mechanic received severe electrical burns on the head, right arm, right foot and leg while trying to rescue the victim.

The ore was mined using a multiple-bench method with conventional pattern drilling and blasting. The 10- and 20-cubic yard capacity electric-powered shovels were used to load broken ore into 85 to 120-ton capacity haulage trucks for transportation to the primary crusher. The shovel involved was a P & H model 1900 A-1, 10-yard.

Power entered the lower shovel body through collector rings. These collector rings remained energized while the main disconnects were closed. The rings were located in a small compartment adjacent to the transmission access crawl hole. The right swing transmission was removed for repair and in order to complete reinstallation, it was necessary for a person to enter the crawl hole and align certain bolt holes. While in this position, a person would be in almost direct contact with the energized ring.

The ground fault interrupter was estimated to trip under fault conditions at about 12 amps. The ground fault relay did not trip when the victim made contact with the collector ring, but tripped when the second miner who was injured made contact.

Description of Accident: The victim and the injured miner reported for work at their regular starting time. The supervisor instructed them to install the rebuilt transmission. Assuming the victim had complete knowledge of installation procedures and hazards, the supervisor did not give detailed instructions.

The supervisor went to the work site later in the day and asked the victim if the crew would work overtime to complete the job. He also inquired of need for a rubber-tired dozer to move the boom.

(For use in surface mining operations)

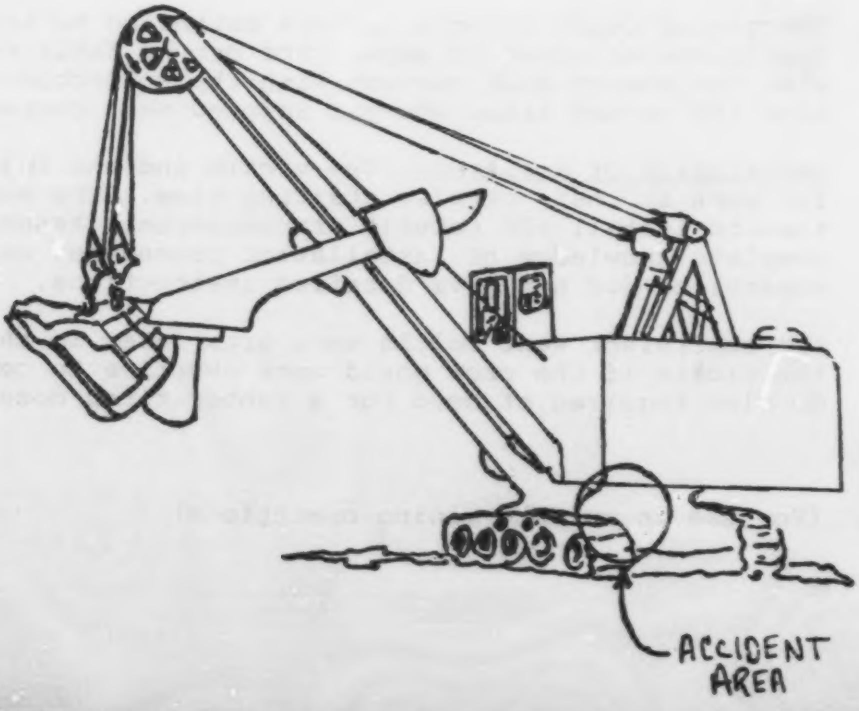
The victim agreed to work overtime and said they were not ready for a dozer. In about an hour, the transmission was in place and it was necessary to align the bolt holes.

The victim entered the crawl hole and after a few minutes passed with no response, a check of the compartment revealed that the victim was unconscious. Not suspecting that he had contacted the ring and was electrocuted, his coworker entered the hole to rescue him and also contacted the ring. The mechanics outside heard a sizzling sound and could smell something burning. Help was summoned, the pole-mounted disconnects were opened and both men were removed from the compartment. First aid was applied immediately and both were transported to the hospital. The victim was pronounced dead on arrival.

Investigation indicated that four large shovels were in operation, one of which required the DC generator to be operating before the collector rings were energized. Interviews with mechanical personnel indicated this condition may have caused some confusion. Some mechanics stated that no rings were energized unless the DC generator is operating, while others stated the rings are constantly energized.

Cause of Accident: The direct cause of the accident was the failure to deenergize and lock out the power source before entering the compartment containing the collector rings.

The failure of the company to establish and enforce a detailed written procedure for safe performance of work in the collector ring compartment contributed to the primary cause of this accident.



April 1980

HOLMES SAFETY ASSOCIATION MONTHLY SAFETY TOPIC

PORTRAIT OF A COMPRESSED GAS CYLINDER

Treat me with respect--I am a sleeping giant!
I weight in at 175 lbs. when filled.
I am pressurized at 2,200 p.s.i.
I have a wall thickness of about ¼ inch.
I stand 57 in. tall.
I have a 9-in. diam.
I wear a cap when not in use.
I have valves, gauges and hoses when at work.
I wear many colors and bands to indicate the tasks I perform.
I transform miscellaneous stacks of material into many things--when properly used.

I transform many things into miscellaneous stacks of material when allowed to unleash my fury unchecked.
I am ruthless and deadly in the hands of the careless or uninformed.
I am too frequently left standing alone on my small base, my cap removed and lost. Then I am ready to be toppled over, my naked valve can be snapped off--and all of my power can be unleashed through an opening no larger than a lead pencil.
I have been known to jet away faster than any dragster.

I smash my way through brick walls with the greatest of ease.
I fly through the air and reach distances of a ½ mile or more.
I spin, ricochet, crash and slash through anything in my path.
I scoff at the puny efforts of human flesh, bone and muscle to change my erratic course.
I can rupture and explode.
You can be my master only on my terms. Full or empty, see to it that my cap is on, straight and snug. Never leave me standing alone. Keep me in a secure rack, and tie me so that I cannot fall.

AVOID RISKS

(For use in all mining operations)

SAFETY IS EVERYBODY'S BUSINESS

April 1980

HOLMES SAFETY ASSOCIATION MONTHLY SAFETY TOPIC

FIRE EXTINGUISHERS, THEIR LOCATION AND USE

Today our message is of a general nature and concerns everyone. Control of fires is necessary for when they become uncontrollable, loss of life or property damage is usually the result.

Two methods of approach to the fire problem have been adopted by fire-control authorities. One is known as fire prevention and the other as fire protection. It is the latter that we want to discuss today. Fire protection deals with extinguishing or subduing fires; also, it includes all types of equipment, materials, and techniques used in fighting fires. Authorities on firefighting agree that most fires can be extinguished quicker if they are discovered early and if no time is lost in fighting them. Practically all fires in their early stages could be put out with portable fire extinguishers with little or no effort; however, unless firefighting procedures are started immediately, these same fires can be raging out of control, destroying lives and property. Speed is essential in putting out a fire.

Fires are classified by the National Fire Protection Association as Class A, B, or C, and each fire extinguisher is marked with the appropriate identifying letter. At this time, suppose we review briefly the different classes of fires and the type of fire extinguisher or extinguishing agent that should be used on each.

Class A Fires are fires in ordinary solid combustible materials, such as coal, wood, rubber, textiles, paper, and rubbish.

Class A fires can be best controlled through the quenching or cooling action of water or certain chemical fire extinguishers, such as soda acid, foam, and loaded stream. These fire extinguishers are labeled Class A.

Class B Fires are fires in flammable liquids, such as fuel or lubricating oils, grease, paint, varnish, and lacquers. A blanketing or smothering effect is necessary to successfully fight Class B fires. Chemical fire extinguishers, such as foam, dry chemical, and liquid carbon dioxide are suitable to use on this class of fire. Rock dust or fine sand may be used also. In no case should water be used, unless a spray, mist, or fog-type nozzle is provided.

Class C Fires are fires of an electrical origin, such as live electrical equipment, transformers, generators, motors, and switch panels. A nonconductive extinguishing agent is necessary for fighting fires of this nature; chemical fire extinguishers, such as liquid carbon dioxide, dry chemical, and

(For use in all mining operations)

SAFETY IS EVERYBODY'S BUSINESS

vaporizing liquids are suitable to use along with rock dust and fine sand. Fine sand and rock dust should be used only as a last resort, since either may cause damage to the electrical equipment.

Each day as you go about your duties, you pass by fire extinguishers. You should fix these locations firmly in your mind as your job and your life may depend on you knowing the location of the nearest fire extinguisher. Also, you should know how each one should be used. If you lost even a few seconds in getting a fire extinguisher into operation, you might not be able to control the fire.

One final thought that I want to leave with each of you is that we shouldn't rely on fire extinguishers to protect us from fires. The only sure way to protect ourselves is to prevent fires from starting. If you see a fire hazard, remove it or report it at once. Don't let fires have an opportunity to start.

Classes of fires

1. Class A - Fires in ordinary solid material; coal, wood, rubber, paper, rubbish
    a. Control- Quenching or cooling action of water and some chemicals
        1. Class A extinguishers
            a. Soda acid
            b. Foam
            c. Loaded stream
2. Class B - Flammable liquids; smothering action required
    a. Control
        1. Chemical extinguishers
            a. Foam
            b. Dry chemical
            c. Liquid carbon dioxide
        2. Rock dust
        3. Fine sand
        4. Water - Only in mist form
3. Class C - Electrical origin
    a. Control - Nonconductive agent required
        1. Chemical extinguishers
            a. Liquid carbon dioxide
            b. Dry chemical
            c. Vaporizing liquids - "carbon tet"
        2. Fine sand and rock dust used as last resort

April 1980

HOLMES SAFETY ASSOCIATION MONTHLY SAFETY TOPIC

HANGOVER OR LOOSE GROUND

There are at least three meanings to the slang word "hangover". The first concerns a person who unwisely indulges to excess, for example, on a payday weekend, and by Monday morning may have a severe headache and butterflies in their stomach. The ill feeling of this person is commonly called a "hangover". The second circumstance of a "hangover" develops when a person finds their pay statement showing less than the actual earnings and is assured by the supervisor that the next pay statement will reflect the correct wages. This situation can be, and usually is, called a "hangover". The third definition of "hangover" refers to a piece of roof and/or coal protruding from the ribs or the faces of the working places.

Naturally, in our discussion today, we are not too concerned with the first and second types of "hangovers", but as miners, are principally interested in the "hangovers" or loose ground present in the working places and along haulage roads. The best situation would be to have no "hangovers", or loose ground but we know they do develop through a series of circumstances.

"Hangovers" come in different sizes, and shapes and cause many injuries, some of a minor nature; while others may produce serious injuries, many resulting in lost-time accidents and hospitalization of the injured employees, as well as numerous fatal accidents.

As you and I know, the time to do something about a "hangover" or loose ground is when it is first observed. Every effort should be made to take down "the hangover", and under no circumstances should it be left to possibly injure some unsuspecting person after an unsuccessful effort has been made to remove it. Some type of warning should be left to inform other persons of the danger. Ususally, the first person to see a "hangover" is the supervisor or blaster when they return to examine the face area after blasting. Often times, these "hangovers" cannot be observed until part or all of the coal or product has been loaded. In these instances, it then becomes the duty of the mining-machine operator or hand loader to remove the "hangover".

A very definite hazard and accident potential exists for the blasters when they enter to charge the holes for blasting and for some reason, a "hangover" remains after the faces have been cut and drilled. You are well aware that the blasters duties require working close to the face, and running the risk of a "hangover" falling or rolling.

In every mine, each employee has assigned duties and is expected to perform them in a safe and efficient manner. Possibly some of you recall the slogan used by the N.R.A. (National Recovery Act), "WE DO OUR PART". I would like for each of you to ask yourself this question, "AM I DOING MY PART"? Let us hope that you can answer in the affirmative, and that you will try to do everything in your power to eliminate any future "hangovers".

(For use in underground coal-mining operations)

April 1980

ABSTRACT FROM FATAL ACCIDENT

HOLMES SAFETY ASSOCIATION
MONTHLY SAFETY TOPIC

FATAL SURFACE HAULAGE ACCIDENT

General Information: A fatal accident occurred which resulted in the death of the driver of a 773 Caterpillar 50-ton rock truck. He had a total of 4 years of mining experience with 4 weeks as a truck driver.

Description of Accident: Several hours after the beginning of the shift, the victim took over the operation of the rock truck. A new haulage road was completed at the beginning of the shift. This road cut across the spoil pike and was connected to the highwall. Two coal trucks used this roadway to haul coal from the pit during this shift. Operations proceeded normally for about 3 hours at which time the victim's truck became stuck in the mud at the top of the hill on the highwall side. Another employee, an oiler, operated the truck while it was being pulled from the mud. He stated that there was nothing wrong with the truck at that time. The dozer operator stated that he then told the victim to stop his truck at the top of the spoil pile on his return trip from the pit and he would signal him with his lights when the road was repaired. The victim stopped at the top of the hill on the spoil side. The dozer operator signaled him from atop the hill on the highwall side and watched as the victim proceeded. He stated that the victim drove the truck straight, rubbing the edges of the berms, climbed upon the berm, then started rolling down the embankment, turning approximately a three-quarter turn and resting on its side in approximately 10 feet of mud and water.

The dozer operator quickly obtained help. Two employees tried unsuccessfully to get into the cab of the truck, which was approximately 4 feet under water. Heavy equipment had to be brought into the area to move the truck to where the victim could be free. He was pronounced dead from accidental drowning by the coroner.

Cause of Accident: The accident occurred when for some unknown reason the 773 Caterpillar rock truck rubbed, climbed and subsequently breached a roadway berm and overturned into an impoundment of water and mud, approximately 12-feet deep. The investigation revealed no indication that vehicle malfunction contributed to the accident.

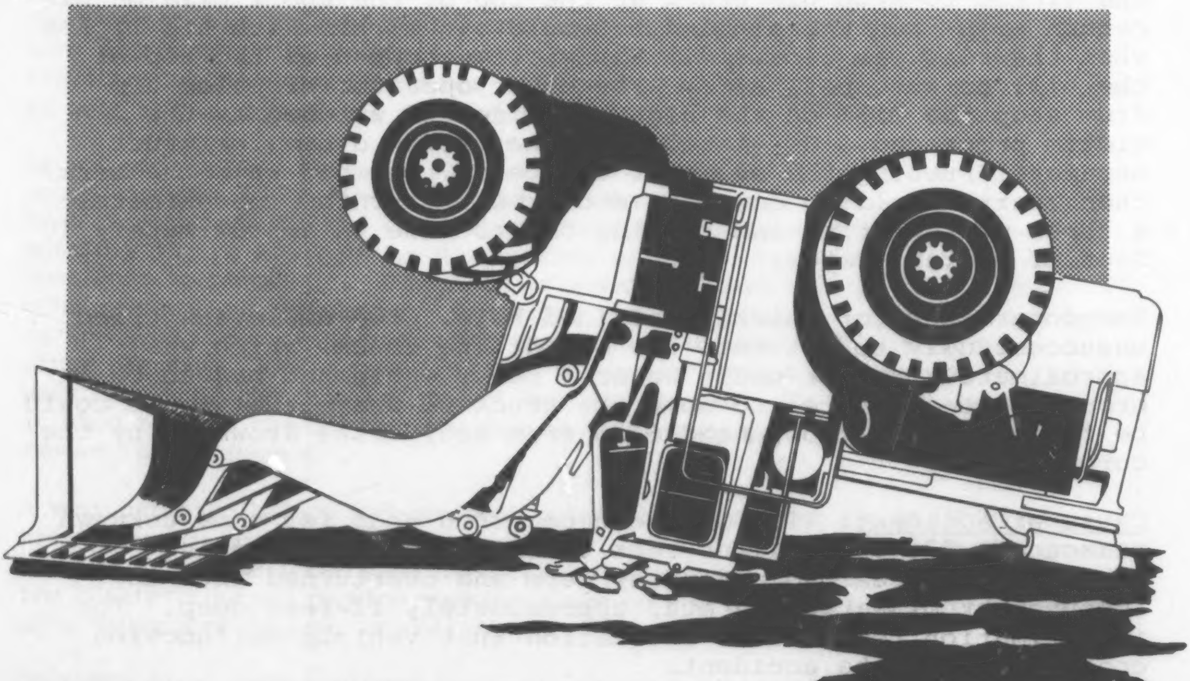
(For use in surface mining operations)

★ U.S. GOVERNMENT PRINTING OFFICE: 1980-0-677-182/7

April 1980

HOLMES SAFETY ASSOCIATION

When will we learn that we need ROLLOVER PROTECTION, SEAT BELTS, AND BERMS.



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May 1980

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RETRACTION

There was a factual error in the March, 1980 Monthly Safety Topic, Lesson LXX, dealing with Part 75.317.

There is no requirement, statutory or administrative, to calibrate permissible methane-detecting equipment for accuracy at intervals not exceeding 31 days. Part 75.317 merely requires that they be maintained permissible.

There is a monthly calibration requirement for machine-mounted methane monitors (but not methane detectors) in 75.313-1.

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May 1980

HOLMES SAFETY ASSOCIATION MONTHLY SAFETY TOPIC

FIRST AID

FRACTURES AND DISLOCATIONS

This safety topic will attempt to touch the highpoints and essentials in the treatment of fractures and dislocations. Naturally, we always try to follow certain procedures to prevent these accidents. However, when they do occur, we usually have to restrain the impulse to go into action immediately before making a careful preliminary examination and determining the course of action needed. A wrong move at this time could make the consequences worse than the event.

As you know, the framework supporting the tissues and protecting the organs of the human body consists of bones. We generally think of frameworks as stationary, visible structures, and because of factors involved in design we are used to seeing the body framework in a standing position. The framework in the human body is invisible and moveable, but our safety factor is to use proper and careful handling methods so as not to change the disability into a weapon and aggravate and intensify the injury. You can readily understand this when you realize that fractures may range from "clean" to "jagged". In any case, movement in the vicinity of the fracture may easily cause extensive damage to the surrounding blood vessels, nerves, and tissues, and possibly even endanger life.

Make a careful examination of the injured person, and do not change their position unless you know that changing position will not complicate the injuries. A fracture is indicated by deformity or irregularity of the part; swelling; pain in the region of the fracture; loss of use in the case of long bones; and shortening of the limbs when extremities are involved. When a fracture is accompanied by a wound, it is called a compound fracture; otherwise, it is known as a simple fracture.

In either event, when a fracture is present, any necessary movement of the patient must be made in a manner to protect the injured part from further injury. To do this, the injured part must be supported. Temporary support must be given to all fractures, except those of the skull, nose, upper and lower jaw, cheekbone, shoulder blade, and ribs, before dressing has been completed. In these instances, as well as fractures of the of the collarbone and upper third of the arm, the proper application of bandages is adequate to prevent movement of the injured part. In all other instances, splints are used to support and protect injured parts. Splints should be of stiff material, long enough to prevent movement at the joints on each side of the fracture, and as wide as the limb being supported. Splints should be padded well with soft material on the inside and ends that come in contact with the body, and extra padding should be placed in the hollow spaces under natural arches (knee, ankle, etc.), and where the bones of a fracture contact the splint. Splints should be tested for strength in all cases before being used to support the weight of the patient. It is critical to remember that in case of a broken back or neck, the spinal cord may or may not be damaged, but if a patient is improperly handled, the spinal column may be damaged permanently. Similarly, a fractured pelvis may or may not be accompanied by a ruptured bladder. Remember that the hope for success of an operation for a ruptured bladder is in the first hour or two, and proper handling is of vital importance.

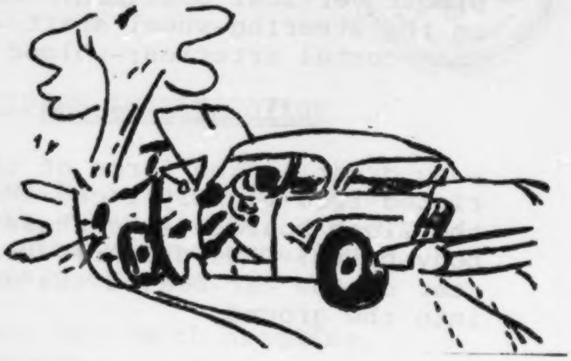
Essentially, the basis for treating dislocations and fractures is the same. The importance of retaining and refreshing your knowledge and skill in this phase of first aid is emphasized by the fact that nerve injuries involved in fractures are increased by 75 percent by improper handling and splinting.

May 1980

HOLMES SAFETY ASSOCIATION MONTHLY SAFETY TOPIC

Death In Seven-Tenths of a Second

This is the slow-motion, split-second reconstruction of what happens when a car, traveling 55 miles an hour, crashes into a solid, immovable object such as a tree:



1/10 of a second

--the front bumper and the chrome "frosting" of the grillwork collapse;--slivers of steel penetrate the tree to a depth of 1-½ inches or more.

2/10 of a second

--the hood crumbles as it rises, smashing into the windshield;--spinning rear wheels leave the ground;--the grillwork disintegrates;--the fenders come into contact with the tree, forcing the rear parts to splay out over the front doors. In the same tenth of a second the heavy structual members of the car begin to act as a brake on the terrific forward momentum of the 2-½-ton body;--but the driver's body continues to move forward at the vehicle's original speed. (This means a force of twenty times gravity; the body weighs 3,200 pounds.) The legs, ramrod straight, snap at the knee joints.

3/10 of a second

--the driver's body is now off the seat, torso upright, broken knees pressing against the dashboard;--the plastic and steel frame of the steering wheel begins to bend under the driver's terrible death grip;--the head is now near the sun visor, the chest above the steering column.

4/10 of a second

--the car's front 24 inches have been completely demolished, but the rear end is still traveling at an estimated speed of 35 miles per hour;--the driver's body is still traveling at 55;--the half-ton motor block crunches into the tree;--the rear of the car, like a bucking horse, rises high enough to scrape bark off low branches.

(For use in all mining operations)

SAFETY IS EVERYBODY'S BUSINESS

5/10 of a second

--the driver's fear-frozen hands bend the steering column into an almost vertical position;--the force of gravity impales the driver on the steering-wheel shaft;--jaggered steel punctures lung and intercostal arteries;--blood spurts into the lungs.

6/10 of a second

--so great is the force of the impact that the driver's feet are ripped from tightly laced shoes;--the brake pedal shears off at the floor boards;--the chassis bends in the middle, shearing the body bolts;--the driver's head smashes into the windshield;--the rear of the car begins its downward fall, spinning wheels digging into the ground.

7/10 of a second

--the entire writhing body of the car is forced out of shape; hinges tear; doors spring open; in one last convulsion the seat rams forward, pinning the driver against the cruel steel of the steering shaft....Time elapsed--
SEVEN-TENTHS OF A SECOND.

May 1980

ABSTRACT FROM FATAL ACCIDENT

HOLMES SAFETY ASSOCIATION
MONTHLY SAFETY TOPIC

FATAL DROWNING ACCIDENT INVESTIGATION

General Information: A miner was fatally injured (drowned) while working at a sand and gravel pit. The victim, age 26, had a total of one year and eleven months mining experience, with one year and seven months at this operation.

The open pit operates on one shift per day, with dragline, bottom dump trucks, and front-end loaders.

The victim had worked at odd jobs around the pit and at a new pit location all day. Late in the day the victim was assigned the task of building a road across a 100-foot wide open stretch of water with the Caterpillar D-8 dozer using waste sand from the pit.

Description of Accident: The victim started his shift and worked at stripping weeds off a new pit site with a Caterpillar D-8 until the pit superintendent instructed him to come to the old pit with his Caterpillar D-8 to move a stacking conveyor. The victim moved the stacking conveyor and proceeded to plate a road in the old pit. Upon completion of this work, the victim reported to the supervisor for further instructions.

They walked to the sand disposal area at the lakeside to look over further work. They discussed the construction of a road across a 100-foot span of water. The supervisor told the victim to be careful of the dark sand (water impregnated sand) as it was dangerous.

Later the supervisor noticed that no noise was coming from the sand disposal area. The crusher operator was sent to check on the victim. The crusher operator reported to the supervisor that the victim and the Caterpillar D-8 were nowhere in sight.

The supervisor and the crusher operator returned to the sand disposal area. There were tracks in the sand leading toward the water. The tracks terminated at the water's edge atop an 8 to 10 foot embankment.

It was apparent that the victim had trammed the Caterpillar D-8 out upon the sand bank. The sand bank had given away and the victim and the dozer were in the water.

The supervisor went to the office and had the office manager summon the fire department to assist in location and recovery of the victim.

(For use in surface mining operations)

While the supervisor was at the office seeking assistance the oiler dove into the lake at the accident site in an effort to recover the victim's body. He was unsuccessful.

Underwater search and recovery operations were conducted until dark with no success. A sheriff's deputy was left at the scene of the accident overnight to secure the site.

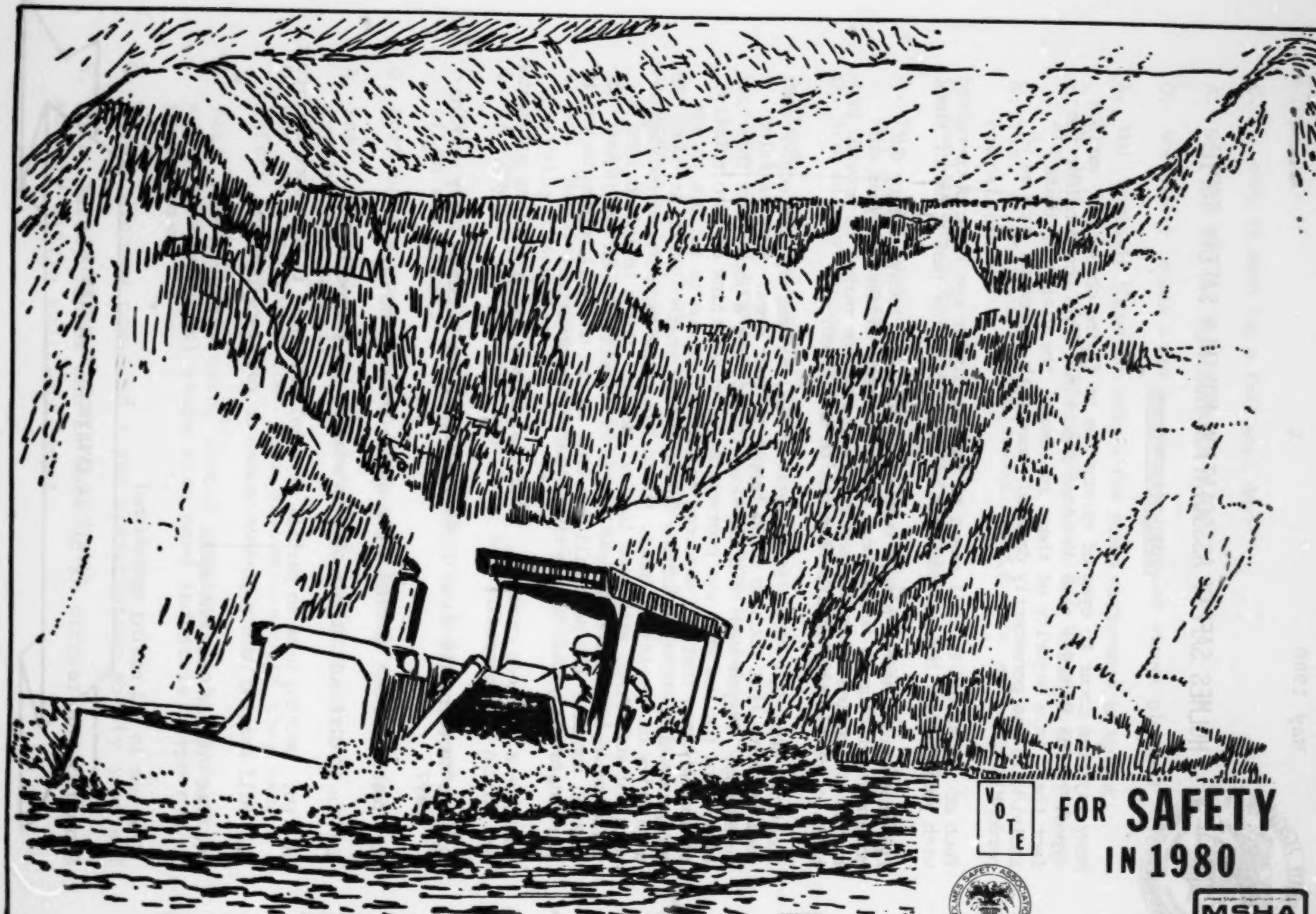
Search and recovery operations were started again the next day and continued for 2 hours. When the body was located, it was recovered about 30 feet south of the bulldozer in 20 feet of water.

Although there were no witnesses to the accident, it is apparent that the victim trammed the dozer onto the 8- to 10-foot sand bank; that the bank sheared off behind the dozer, and the victim and the rig sank into 20 feet of water.

Cause of the Accident: The cause of the accident was management's failure to recognize the hazard associated with this particular job. Working a bulldozer at a lake's edge upon an 8- to 10-foot bank of water impregnated sand was hazardous. There was a failure to properly impress the victim of this hazard.

A factor contributing to the victim's death was failure to ensure he was wearing a life jacket while working around water.

Recommendations: Life jackets or belts shall be worn where there is danger from falling into water.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May 1980

HOLMES SAFETY ASSOCIATION MONTHLY SAFETY TOPIC

GUARD YOUR VISION

Many injuries occur to eyes of miners due to flying objects of various types. These injuries take on added importance when you consider the fact that, in a majority of these incidents, the vision of these individuals was permanently damaged, some with a loss as much as 50 percent.

Each of you should be well aware of the particular eye hazards connected with your duties, but suppose that we briefly review just a few of them.

Eye protection has not always been available, but today, due to our modern manufacturing techniques, there are many different types and styles of goggles, shields, and spectacles on the market to provide protection for all the hazards that can be mentioned.

Sometimes you might think it a waste of time to wear eye protection and feel positive that nothing could happen to your eyes. This is false reasoning. If you ever have the urge to shortcut a job, "just this one time," and not use your eye protection, stop and think of some relative or acquaintance that has suffered an eye injury due to failure to use eye protection while performing duties either on-the-job or at home. In a majority of eye-injury cases, the victims have experienced considerable pain and suffering, with some loss of vision. Don't be lulled into a false sense of security if you have never experienced an eye injury, but instead consider the possibilities that it can and will happen to you if you consistently fail to use the proper eye protection.

Don't be a needless casualty. Good vision is a most priceless possession and should be protected.

Q. Are there really about 1,000 industrial eye injuries every working day?

A. Yes! Over 90% of them are needless and preventable.

Q. Is it difficult to get used to wearing eye protection?

A. No! Getting used to partial or total blindness is much more difficult.

Q. Will wearing safety glasses weaken or ruin eyesight?

A. No! But an accident will.

(For use in all mining operations)

SAFETY IS EVERYBODY'S BUSINESS

Q. ...even if worn for a full work day?

A. No! Not even if worn 24 hours a day.

Q. Are safety lenses a lot heavier than regular street glasses?

A. No! Actually there are only a few grams difference in weight.

Q. My job isn't very hazardous--should I use eye protection anyway?

A. Yes! Plenty of eye injuries result from a co-worker's operation.

Q. Can anyone prove that safety eyewear does save eyes?

A. Yes! Eye protection saved the sight of over 23,000 Wise Owl Club members.

Q. Are safety lenses made of first quality materials?

A. Yes! Optical grade glass or plastic must be used.

Q. Does safety eyewear have to pass any impact and quality test?

A. Yes! All industrial eye protectors must meet rigid Federal standards.

Q. Could regular street glasses pass the same tests?

A. No! Regular lenses splinter easily and the frames are usually flammable.

Q. Is "double" eye protection ever needed?

A. Yes! For example, a face shield over safety glasses is often advisable.

Q. Does safety eyewear also have off-the-job advantages?

A. Yes! Power mowers, do-it-yourself projects, sports, etc. involve eye hazards.

Q. How about children that wear glasses--should they have safety lenses?

A. Yes! And students using school chemistry labs, industrial arts, or vocational shops also need industrial-type eye protectors.

Q. I wear glasses now--can I get prescription safety glasses?

A. Yes! Safety lenses can be made up in bifocal and trifocal at very little additional cost.

Q. Is it all right for a co-worker to remove a speck from your eye?

A. No! Never let anyone but a doctor or nurse touch or treat your eye.

Q. Is water the best thing to flush chemicals out of the eye?

A. Yes! Use plenty of water immediately--force the lids open if necessary.

Q. Are "minor" eye injuries actually dangerous?

A. Yes! Blindness can result from almost any eye injury.

Q. My eyesight is excellent--will it always be?

A. No! Changes take place over the years that may affect vision. A thorough eye exam every two years is advisable.

Q. Who benefits the most from full time use of eye protection?

A. YOU....and your family. Don't flirt with blindness.

ABSTRACT FROM FATAL ACCIDENT

May 1980

HOLMES SAFETY ASSOCIATION
MONTHLY SAFETY TOPIC

FATAL POWERED HAULAGE ACCIDENT

General Information: A fatal powered haulage accident occurred on the main haulage road to the 1st right section resulting in the death of a battery-powered scoop operator. The victim had approximately 4 years mining experience, 1 year and 3 months as a scoop operator. The accident occurred because the victim failed to maintain control of a battery powered scoop. The scoop was allowed to roll backward and the victim was caught between the scoop and an overcast.

Four workmen, including the victim were assigned the task of plastering overcasts and cleaning the roadway in the belt entry. The victim assisted the other workmen in plastering the overcasts until he began cleaning the roadway with the battery powered scoop. The victim filled the scoop bucket with debris from the roadway and left the working area at 1:26 p.m. to dispose of the debris in old workings. At approximately 2:40 p.m., a continuous miner helper found the victim trapped between the deck of the scoop and an overcast.

Description of Accident: The overcast involved in the accident had been recently constructed to provide ventilation to the new section. This overcast projected 10-½ inches below the normal mining height, which was 39 inches.

There was 4-½ inches of clearance between the top of the battery powered scoop and the bottom of the overcast.

The roadway beneath the overcast was on a three per centum grade and the scoop would roll backward when parked without the brakes being set.

The battery powered scoop was examined during the investigation. The only defect found in the battery powered scoop was that a light had been removed from the front. This scoop had been borrowed from another mine two days prior to the accident.

Because there were no eyewitnesses, the sequence of events which led to the accident could not be determined. It was the opinion of the investigating team that the victim was looking over the top of the scoop; when he allowed it to drift backward and he was caught against the overcast.

Cause of the Accident: The direct cause of the accident was management's failure to provide uniform vertical clearance by constructing an overcast that projected 10-½ inches below the

(For use in underground coal mining operations) normal roof height. A contributing factor was the operator's unsafe operation of the scoop, in that, he apparently permitted the scoop to travel in reverse without facing the direction of travel.

Coal Mine Fatalities January-December 1979

U.S. Department of Labor
Mine Safety and Health Administration

Ray Marshall, Secretary
Robert B. Lagather
Assistant Secretary
for Mine Safety and Health

Coal Mine Fatalities for
January - December 1979: **144**
DECEMBER Fatalities: 13

Underground: Roof Fall 6, Haulage 4
Surface: Haulage 2, Other 1

(Compared with 1978): 106

Coal Mine Fatalities for Jan-Dec 1979 and Jan-Dec 1978 by State:

	1979	1978		1979	1978
Kentucky	36	24	Maryland	2	1
West Virginia	36	30	Wyoming	2	2
Virginia	17	16	Indiana	2	1
Pennsylvania (Bit.)	13	7	New Mexico	1	0
Alabama	10	4	Texas	1	0
Illinois	6	7	Colorado	1	2
Utah	6	4	Pennsylvania (Anth.)	1	1
Tennessee	5	1	Arizona	0	1
Ohio	3	4	Arkansas	0	1
Oklahoma	2	0			

Fatalities January - December 1979 by Occupation, Location, and Cause:

OCCUPATION

Roof Bolter/Helper	22	Welder/Helper	3
Section/Assistant Foreman Assistant Manager	17	Car Dropper	3
Continuous Miner Operator/Helper	13	Shuttle Car Operator	3
Laborer/Trainee	11	Utility Man	2
Scoop/Dozer Operator	9	Shot Firer	2
Mechanic/Repairman	8	Brattice Man	2
Truck Driver	7	Jack Setter	2
Loading Machine Operator/Helper	7	Supply Man	2
Timberman	7	Mobile Equipment Operator	1
Electrician/Helper	6	Belt Cleaner	1
Motorman/Brakeman	4	Blaster	1
Superintendent/Co-owner	4	Construction Worker	1
Drill Operator	3	Maintenance Foreman	1
		Fire Boss	1
		Cleanup Man	1

LOCATION

Underground Mine	106
Strip and Auger Mine	15
Preparation Plant	14
Surface Area of UG Mine	9

CAUSE

Roof and Rib Fall	66
Haulage	36
Machinery	11
Electrical	12
Other	19

May 1980

GPO 865-252

May 1980

Metal and Nonmetal Mining Fatalities January-December 1979*

U.S. Department of Labor
Mine Safety and Health Administration

Ray Marshall, Secretary

Robert B. Lagather
Assistant Secretary
for Mine Safety and Health

Metal and Nonmetal Mining Fatalities in 1979: 122

The 122 Fatalities occurred in the following states and territories:

California	12	Virginia	5	Indiana	1
Louisiana	8	Mississippi	4	Massachusetts	1
Texas	8	Nevada	4	Maine	1
Colorado	7	Tennessee	4	Minnesota	1
New Mexico	7	Kansas	3	Missouri	1
Florida	6	New York	3	Montana	1
Utah	6	Alabama	2	North Carolina	1
Arizona	5	Oregon	2	South Dakota	1
Georgia	5	Pennsylvania	2	Wisconsin	1
Iowa	5	West Virginia	2	Wyoming	1
Michigan	5	Idaho	1		
Ohio	5	Illinois	1		122

Fatalities for Jan-Dec 1979 by Occupation, Location and Cause:

OCCUPATION:	
Laborers	44
Truck Drivers	17
Machine Operators	16
Mechanics	16
Miners	14
Supervisors	11
Others	4
	122

SURFACE:	
Powered Haulage	28
Electricity	11
Machinery	7
Fall of Person	4
Others	13
	63

UNDERGROUND:	
Fall of Ground	8
Explosion of Gas	5
Explosives	5
Man Hoisting	4
Powered Haulage	4
Others	5
	31

MILLS:	
Fall of Person	7
Powered Haulage	7
Falling Materials	3
Handling Materials	3
Machinery	3
Others	5
	28

The high total of haulage fatalities is partly due to redefinition of terms in 1978. But it is still true that the ways to avoid haulage accidents are to:

1. *Follow established safety rules.*
2. *Comply with posted speed limits.*
3. *Practice good defensive driving habits.*

---

*Preliminary Data

State[2]
Management[3]

Report of Holmes Safety Association Safety Chapters

Established January through March 1980--continued

U = Underground
S = Surface
P = Plant

Chapter	*Mine*	*Company*	*Product*	*U*	*S*	*P*	*Member-ship*	*Charter No.*	*City*	*County*	*State*	*Established By*	*Date*	*Council Affiliation*
Hardy Sand Tennessee	Hardy Sand-Tennessee	Jesse S. Morie & Son, Inc.	industrial sands		X		30	2811	Camden	Benton	TN	[1]L. Lofstead	2/25	Nonaffiliated
Georgia Silica Div.	Georgia Silica Div.	Jesse S. Morie & Son, Inc.	industrial sands		X		50	2812	Junction City	Marion	GA	[1]L. Lofstead	2/25	Nonaffiliated
Rosaire	Rosaire	Lockhart Sand Co.	sand & gravel		X	X	10	2813	Vincentown	Burlington	NJ	[1]L. Lofstead [3]W.G. Lockhart	3/1	Nonaffiliated
Passaic	Passaic	Passaic Crushed Stone Co. Inc.	stone & asphalt		X	Mill	250	2814	Pompton Lakes	Passaic	NJ	[1]L. Lofstead [3]V. Gallo	3/18	Nonaffiliated
Kermit #1	Kermit #1	Kermit Coal Co.	coal	X		X	175	2815	Kermit	Mingo	WV	[1]J. Johnson [3]J. Hurley	3/11	Wolf Creek Collieries
Wolf Creek Collieries #9 Mine	Wolf Creek Collieries #9 Mine	Wolf Creek Collieries Co.	coal	X			60	2816	Lovely	Martin	E. KY	[1]J. Johnson [3]L. Sluss [3]Freal Mize	3/11	Wolf Creek Collieries
Peter-Cave Coal #1 Mine	Peter-Cave Coal #1 Mine	Peter-Cave Coal Co.	coal	X			160	2817	Lovely	Martin	E. KY	[1]J. Johnson H. Turner [3]J. Taylor	3/11	Wolf Creek Collieries
Ora Mae Coal #1 Mine	Ora Mae Coal #1 Mine	Ora Mae Coal Company	coal	X		X	125	2818	Turkey Creek	Pike	E. KY	[1]J. Johnson H. Turner [3]T. Marcum T. Webb	3/11	Wolf Creek Collieries

MSHA[1]
State[2]
Management[3]

Report of Holmes Safety Association Safety Chapters

U = Underground
S = Surface
P = Plant

Established January through March 1980--continued

Chapter	Mine	Company	Product	U	S	P	Membership	Charter No.	City	County	State	Established By	Date	Council Affiliation
Daniels Constrution	Daniels Constrution	Daniels Construction Company	coal		X		70	2819	Lovely	Martin	KY	[1]J. Johnson H. Turner [3]F. Mize	3/11	Wolf Creek Collieries
R. A. Hamilton	R. A. Hamilton	R. A. Hamilton Corp.	constrution			X	75	2820	Hackensack	Bergen	NJ	[1]L. Lofstead	3/21	Nonaffiliated
Allied Concrete	Allied Concrete	Allied Concrete & Materials co.	ready mix concrete		X		150	2821	Mesa	Maricope	AZ	[1]W. H. Hoover [3]D. Sneed	3/26	Nonaffiliated

Total chapters established during the first quarter of 1980 .... 27 - Membership - 2,161

Total chapters nationwide .... 1,456 - Membership - 210,661

May 1980

A
MESSAGE
FOR
YOU

"EARLY BIRD"
Specials

NATIONAL MEETING

HOLMES SAFETY ASSOCIATION

LOCATION: *QUALITY INN CENTRAL MOTEL*
1190 NORTH COURTHOUSE ROAD
ARLINGTON, VIRGINIA 22203
703-524-4000

AGENDA: *MAY 27, 1980*

SPONSORED HOSPITALITY BAR 7 to 10 p.m.

MAY 28, 1980

MEETING OF NATIONAL COUNCIL, HOLMES SAFETY ASSOCIATION

MAY 29, 1980

MEETING OF JOSEPH A. HOLMES SAFETY ASSOCIATION

PLANNING TO ATTEND? PLEASE NOTIFY NATIONAL SECRETARY:

FOUR PARKWAY CENTER, SUITE 102
PITTSBURGH, PENNSYLVANIA 15220
412-922-0220

*U.S. Government Printing Office: 1980-677-162/8

HOLMES SAFETY ASSOCIATION

May 1980

On the job, keep in mind to Wear your SAFETY BELT and LINE.

VOTE FOR SAFETY IN 1980

MSHA

MSHA
State [2]
Management [3]

Report of Holmes Safety Association Safety Chapters

Established January through March 1980

U = Underground
S = Surface
P = Plant

Chapter	Mine	Company	Product	U	S	P	Membership	Charter No.	City	County	State	Established By	Date	Council Affiliation
Mine Consulting & Safety Services	Mine Consulting & Safety Services	Mine Consulting & Safety Services	coal & non-coal	X	X	X	14	2795	Birmingham	Jefferson	AL	[1] J. Johnson [3] T.C. White	1/9	Nonaffiliated
American Salt	American ' Salt	American Salt Co.- Solar Div.	salt		X		60	2796	Grantsville	Tooele	UT	[1] B. Reed	1/21	Nonaffiliated
A & G	A & G	A & G Coal Co.	coal		X		2	2797	Harrisburg	Saline	IL	[1] B.A. Gibbs	1/23	Nonaffiliated
Equality Mine	Equality Mine	Equality Mining Co.	coal		X		18	2798	Harrisburg	Saline	IL	[1] B.A. Gibbs	1/23	Nonaffiliated
Cordyne	Cordyne	Cordyne Corp.	silver, copper, gold	X		Mill	7	2799	Pearce	Cochise	AZ	[1] W.H. Hoover [1] J. Windorski	1/25	Nonaffiliated
Sunshine Mill	Sunshine Mill	Sunshine Mining Co.	silver antimony copper concentrate			Mill	45	2800	Kellogg	Shoshone	ID	[1] M.D. Delridge	1/29	Nonaffiliated
Sunshine Mine	Sunshine Mine	Sunshine Mining Co.	silver antimony-copper ore	X			406	2801	Kellogg	Shoshone	ID	[1] M.D. Delridge	1/29	Nonaffiliated
Sunshine Antimony Plant	Sunshine Antimony Plt.	Sunshine Mining Co.	silver antimony copper concentrate		X		20	2802	Kellogg	Shoshone	ID	[1] M.D. Delridge	1/29	Nonaffiliated

MSHA[1]
State[2]
Management[3]

Report of Holmes Safety Association Safety Chapters

Established January through March 1980--continued

U = Underground
S = Surface
P = Plant

Chapter	Mine	Company	Product	U	S	P	Membership	Charter No.	City	County	State	Established By	Date	Council Affiliation
Carson Strip	Carson Strip	Wells Mining Co.	coal		X		22	2803	Fultonham	Muskingum	OH	[3] C.L. Carson	2/10	Nonaffiliated
Gas Hills Mining District	Gas Hills Mining District	Energy Fuels Nuclear Inc.	uranium		X		35	2804	Gas Hills Estates	Fremont	WY	[1] M.D. Delridge [2] H. Fink [3] E. Baker	2/7	Nonaffiliated
Maitland	Maitland	Consolidated Coal Southern App. Region	coal	X			200	2805	Welch	McDowell	W.Va.	[3] D. Vance	2/10	Nonaffiliated
Cedar Lake Div.	Cedar Lake Div.	Jesse S. Morie & Son, Inc.	industrial sand		X		4	2806	Buena	Atlantic	NJ	[1] L. Lofstead	2/25	Nonaffiliated
Hayville Div.	Hayville Div.	Jesse S. Morie & Son, Inc.	industrial sand		X		9	2807	Winslow	Atlantic	NJ	[1] L. Lofstead	2/25	Nonaffiliated
Goff Division	Goff Division	Jesse S. Morie & Son, Inc.	industrial sand		X		26	2808	Vineland	Cumberland	NJ	[1] L. Lofstead	2/25	Nonaffiliated
Morie Division	Morie Division	Jesse S. Morie & Son, Inc.	industrial sand		X		118	2809	Mauricetown	Cumberland	NJ	[1] L. Lofstead	2/25	Nonaffiliated
Hardy Sand-Alabama	Hardy Sand Alabama	Jesse S. Morie & Son, Inc.	industrial sands		X		20	2810	Tuscaloosa	Tuscaloosa	AL	[1] L. Lofstead	2/25	Nonaffiliated

MSHA, Holmes Safety Association
Education and Training
P.O. Box 25367
Denver, Colorado 80225

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June 1980

HOLMES SAFETY ASSOCIATION

E PLURIBUS UNUM
SAFETY EFFICIENCY
MINERAL INDUSTRIES

BULLETIN

United States Department of Labor
MSHA
Mine Safety and Health Administration

8.12:

June 1980

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4. Safety Topic, "Heart Attacks"

5. Safety Topic "Heat Cramps, Exhaustion, Stroke"

6. Safety Topic, "Safe Driving Conduct"

7. Abstract, "Fatal Roof Fall Accident"

8. Abstract, "Fatal Material Handling Accident"

9. Safety Topic, "Proper Lifting Techniques"

10. Poster, "Right-of-Ways"

11. Meeting Report Form (chapters only)

SLOGAN: THERE'S NO ROOM

IN THE WORLD LARGER THAN

THE ROOM FOR IMPROVEMENT

June 1980

HOLMES SAFETY ASSOCIATION MONTHLY SAFETY TOPIC

Excerpts from Code of Federal Regulations

Subchapter N--Metal and Nonmetal Mine Safety

Part 55--Health and Safety Standards--Metal and Nonmetal Open-Pit Mines

Beginning with this bulletin, we shall familiarize ourselves with Part 55, Health and Safety Standards, Metal and Nonmetal Open-Pit Mines. The Standards contained in this Section were established for the purpose of protection of life, prevention of accidents, and promotion of health and safety of those miners working in each open-pit mine. We will begin with definitions as used in this part:

"American Table of Distances"--the current edition of "The American Table of Distances for Storage of Explosives" published by the Institute of Makers of Explosives.

"Approved"--tested and accepted for a specific purpose by a nationally recognized agency.

"Authorized person"--a person approved or assigned by mine management to perform a specific type of duty or duties or to be at a specific location or locations in the mine.

"Barricaded"--obstructed to prevent the passage of persons, vehicles, or flying materials.

"Berm"--a pile or mound of material capable of restraining a vehicle.

"Blasting agent"--any material consisting of a mixture of a fuel and oxidizer which--
(a) Is used or intended for use in blasting;
(b) Is not classed as an explosive by the Department of Transportation;
(c) Contains no ingredient classed as an explosive by the Department of Transportation;
(d) Cannot be detonated by a No. 8 blasting cap when tested as recommended in Bureau of Mines Information Circular 8179.

"Blasting Area"--the area near blasting operation in which concussion of flying material can reasonably be expected to cause injury.

SAFETY IS EVERYBODY'S BUSINESS

(For use in surface mining operations--metal and nonmetal)

"Blasting cap"--a detonator containing a charge of detonating compound, which is ignited by electric current or the spark of a fuse. Used for detonating explosives.

"Blasting circuit"--electric circuits used to fire electric detonators or to ignite an igniter cord by means of an electric starter.

"Blasting switch"--a switch used to connect a power source to a blasting circuit.

"Capped fuse"--a length of safety fuse to which a detonator has been attached.

"Capped primer"--a package or cartridge of explosives which is specifically designed to transmit detonation to other explosives and which contains a detonator.

"Circuit breaker"--a device designed to open and close a circuit by nonautomatic means and to open the circuit automatically on a predetermined overcurrent setting without injury to itself when properly applied within its rating.

"Combustible"--capable of being ignited and consumed by fire.

"Company official"--a member of the company supervisory or technical staff.

"Competent person"--a person having abilities and experience that fully qualify them to perform the duty to which they are assigned.

"Conductor"--a material, usually in the form of wire, cable, or bus bar, capable of carrying an electric current.

"Detonating cord" or "detonating fuse"--a flexible cord containing a core of high explosives.

"Detonator"--a device containing a small detonating charge that is used for detonating an explosive, including, but not limited to, blasting caps, exploders, electric detonators, and delay electric blasting caps.

"Distribution box"--a portable apparatus with an enclosure through which an electric circuit is carried to one or more cables from a single incoming feed line, each cable circuit being connected through individual overcurrent protective devices.

"Electric blasting cap"--a blasting cap designed for and capable of being initiated by means of an electric current.

"Electrical grounding"--to connect with the ground to make the earth part of the circuit.

"Employee"--a person who works for wages or salary in the service of an employer.

"Employer"--a person or organization which hires one or more persons to work for wages or salary.

"Explosive"--any chemical compound, mixture, or device, the primary or common purpose of which is to function by explosion. Explosives include, but are not limited to black powder, dynamite, nitroglycerin, fulminate, ammonium nitrate when mixed with a hydrocarbon, and other blasting agents.

"Face or bank"--that part of any mine where excavating is progressing or was last done.

"Flammable"--capable of being easily ignited and of burning rapidly.

"Flash point"--the minimum temperature at which sufficient vapor is released by a liquid or solid to form a flammable vapor-air mixture at atmospheric pressure.

"Highway"--any public street, public alley, or public road.

"High potential"--more than 650 volts.

"Hoist"--a power-driven windlass or drum used for raising ore, rock, or other material from a mine, and for lowering or raising people and material.

"Igniter cord"--a fuse, cordlike in appearance, which burns progressively along its length with an external flame at the zone burning, and is used for lighting a series of safety fuses in the desired sequence.

"Insulated"--separated from other conducting surfaces by a dielectric substance permanently offering a high resistance to the passage of current and to disruptive discharge through the substance. When any substance is said to be insulated, it is understood to be insulated in a manner suitable for the conditions to which it is subjected. Otherwise, it is, within the purpose of this definition, uninsulated. Insulated covering is one means for making the conductor insulated.

"Insulation"--a dielectric substance offering a high resistance to the passage of current and to a disruptive discharge through the substance.

"Lay"--the distance parallel to the axis of the rope in which a strand makes one complete turn about the axis of the rope.

"Low potential"--650 volts or less.

"Major electrical installation"--an assemblage of stationary electrical equipment for the generation, transmission, distribution or conversion of electrical power.

"Man trip"--a trip on which persons are transported to and from a work area.

"Mill"--any ore mill, sampling works, concentrator, and any crushing, grinding, or screening plant used at, and in connection with, an excavation or mine.

"Misfire"--the complete or partial failure of a blasting charge to explode as planned.

"Multipurpose dry-chemical fire extinguisher"--a listed or approved multipurpose dry-chemical fire extinguisher having a minimum rating of 2-A:10-B:C, by Underwriters Laboratories, Inc., and containing a minimum of 4.5 pounds of dry-chemical agent.

"Overburden"--material of any nature, consolidated or unconsolidated, that overlies a deposit of useful materials or ores that are to be mined.

"Overload"--that current which will cause an excessive or dangerous temperature in the conductor or conductor insulation.

"Permissible"--a machine, material, apparatus, or device which has been investigated, tested, and approved by the Bureau of Mines or the Mine Safety and Health Administration and maintained in permissible condition.

"Potable water"--water which shall meet the applicable minimum health requirements for drinking water established by the State or community in which the mine is located or by the Environmental Protection Agency in 40 CFR Part 141, pages 169-182 revised as of July 1, 1977. Where no such requirements are applicable, the drinking water provided shall conform with the Public Health Service Drinking Water Standards, 42 CFR Part 72, Subpart J, pages 527-533, revised as of October 1, 1976. Publications to which references are made in this definition are hereby made a part hereof. These incorporated publications are available for inspection at each Metal and Nonmetal Mine Safety and Health Subdistrict Office of the Mine Safety and Health Administration.

"Powder chest"--a substantial, nonconductive portable container equipped with a lid and used at blasting sites for explosives other than blasting agents.

"Primer or Booster"--a package or cartridge of explosive which is designed specifically to transmit detonation to other explosives and which does not contain a detonator.

"Reverse-current protection"--a method or device used on direct-current circuits or equipment to prevent the flow of current in the reverse direction.

"Roll protection"--a framework safety canopy or similar protection for the operator when equipment overturns.

"Safety can"--an approved container, of not more than 5 gallons capacity, having a spring-closing lid and spout cover.

"Safety fuse"--a train of powder enclosed in cotton, jute yarn, and waterproofing compounds, which burns at a uniform rate; used for firing a cap containing the detonating compound which in turn sets off the explosive charge.

"Safety switch"--a sectionalizing switch that also provides shunt protection in blasting circuits between the blasting switch and the shot area.

"Scaling"--removal of insecure material from a face or highwall.

"Secondary safety connection"--a second connection between a conveyance and rope, intended to prevent the conveyance from running away or falling in the event the primary connection fails.

"Shaft"--a vertical or inclined shaft; a slope, incline, or winze.

"Short circuit"--an abnormal connection of relatively low resistance, whether made accidentally or intentionally, between two points of different potential in a circuit.

"Stray current"--that portion of a total electric current that flows through paths other than the intended circuit.

"Substantial construction"--construction of such strength, material, workmanship that the object will withstand all reasonable shock, wear, and usage, to which it will be subjected.

"Suitable"--that which fits, and has the qualities or qualifications to meet a given purpose, occasion, condition, function, or circumstances.

"Travelway"--a passage, walk or way regularly used and designated for persons to go from one place to another.

"Trip light"--a light displayed on the opposite end of a train from the locomotive or engine.

"Wet drilling"--the continuous application of water through the central hole of hollow drill steel to the bottom of the drill hole.

"Working place"--any place in or about a mine where work is being performed.

NOTE: 55.2 the definition for "Multipurpose dry-chemical fire extinguisher became effective August 30, 1979.

June 1980

HOLMES SAFETY ASSOCIATION MONTHLY SAFETY TOPIC

THE NEW WORKER

The subject for today's message is still another in which all of us are concerned, and one to which every person will need to contribute time and effort if we are to have a good safety record at our mine.

Every new employee comes into our section, shop, tipple, preparation plant, mine, etc., without the full knowledge of all the risks which must be faced in their new work. Although the miner may be experienced, they have never worked before in our particular department and, of course, cannot be expected to know our rules or our ways of working. To be sure, it is the supervisor's responsibility to see that everyone under their direction is properly trained, but everyone can be of considerable assistance to the supervisor in the training of new and inexperienced people by offering guidance to these people and giving them the benefit of your experience. We were all new at one time and, of course, were helped and guided by a lot of different people. Each of us can recall the time when we were learning to drive an automobile or learning the present job we are now performing. A considerable amount of patience, guidance, and training was required before we were allowed to "solo."

New employees require time to become accustomed to their work before they are really safe workers. Any new worker worth his salt wants to learn and comes onto the job expecting to be told and shown how to do their job. Their mind is open to new ideas and new knowledge. The new worker's training must be complete and accurate.

The safe way of doing each job and each operation must be shown. Safety must be worked into each step of the operation as a part of the work procedure. An inexperienced and untrained person performing any operation, regardless of its nature, is a menace to themself and to everyone around them. If the new worker is not trained properly, they may get hurt, and other co-workers may also be involved. For the sake of our safety, as well, we can do nothing less than give assistance and guidance in our safety rules and the hazards involved in the total job.

The instruction given a new miner should be kind and sympathetic in nature, and certainly we need to make the employee feel comfortable and wanted. If the employee feels that we are pulling for them to make good and that we are anxious to help them in every way, the possibilities are that they will respond to all our suggestions in the right spirit and develop into a good, steady, safe miner.

(For use in all mining operations)

SAFETY IS EVERYBODY'S BUSINESS

You can see your part in the safety training of a new worker, and of course, your part is important. While it is the job of the supervisor to start the new worker off in the right direction, they will need your help the rest of the way. Some of you will be working with the new employee and can keep an eye on them, catch things they do wrong, and give them a helping hand when needed. To be sure, you will need to practice safety yourself and set a good example for the new miner. By doing all this, you will help the new worker develop an attitude toward safety that will protect them for life and improve your safety performance.

June 1980

HOLMES SAFETY ASSOCIATION MONTHLY SAFETY TOPIC

Roof Sounding

FATALITY REPORT
5/20/80 - Roof Falls - Coal
1979 - 14 - Total
1980 - 12 - Total

Today, my subject is as old as man's history and as new as the first day he worked in a mine. You have probably guessed that I will talk about back and roof testing.

Since early times, man has relied greatly on his sense of hearing to judge the condition of solid substances. Possibly some cave man used a bone to tap the roof in his cave where he saw some fallen rock to help him decide whether to move or stay put. Certainly the early coal digger recognized that sounding was essential for his safety.

After all these years, the many instances of fatal roof-fall accidents where roof conditions were judged to be satisfactory indicate that our conclusions based on back or roof sounding were haphazard.

Let's consider roof sounds as we recognize them today. The three chief sounds are the solid sound, the drummy sound, and the thud sound. The solid or ringing sound is caused by a continuation of the vibration of the surface when it is struck similar to a vibrating string. This sound indicates a solid roof. The drummy sound is definite in tone also. It results from the vibrations being reflected back and forth through an air space between the surface being tapped and the adjacent surface. This sound indicates the back or roof is ready to fall and immediate correction is needed. A thud sound develops when there is a crack in the back or roof in which the vibrations are damped like a vibrating string is damped by the touch of your finger because the rock on one side of the crack does not vibrate with the rock on the other side. This sound also occurs when air pockets along cracks, slips, etc., are angled about 40 degrees or more, or when the thickness of the rock being sounded is too great to let the reflecting vibrations, which make a drummy sound, reach the listener. This thud sound will vary in tone with the distance of the cavity from the back or roof surface being sounded. Obviously the thud sound indicates questionable roof at best.

Another factor which we must consider is the sounding tool. Because the sound we hear is from the impact of two solids, the sounding tool should be one that holds the least vibrations. Tools with blunt ends hold vibrations less than those with narrow ends; therefore, a hammer or a testing rod is the best choice of available tools.

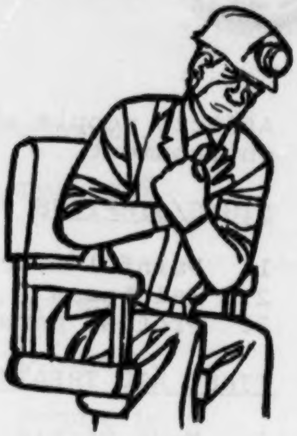
(For use in underground coal-mining operations)

Although this meeting has been devoted mainly to roof sounding, we must practice our roof sounding skill in proper sequence with our senses of vision and touch so that we don't expose ourselves to the dangers of weak roof. Let's train ourselves to recognize the main sounds and adopt the attitude of the inspector who checks railroad car wheels. Does he tolerate a wheel with a flaw? Should we tolerate roof with a flaw? Of course not. We can't discard and replace the roof, but we can and must apply the needed correction.

June 1980

HOLMES SAFETY ASSOCIATION MONTHLY SAFETY TOPIC

HEART ATTACKS



The most common cause for heart attack is a clot in one of the blood vessels that supply the heart. This type of heart attack is called a coronary because of blockage of the coronary arteries or veins.

The victim of a heart attack will usually have severe pain behind the breastbone. It's usually described as a crushing (viselike) pressure. This will give the victim a feeling of apprehension. To put it plainly--he will be scared! He will also have shortness of breath and often will be sweating. He may have nausea or be vomiting.

Notice that these symptoms are stated as "usually" happening. Sometimes the pain connected with a heart attack does not come on suddenly in the chest behind the breastbone. The pain may first appear in the left arm, move into the neck, and then to the left side of the chest. It may stay in the upper abdomen or be at the back of the chest. While the pain is usually severe and stays severe, it might be mild. In fact, a victim might think he only has indigestion.

SIGNS/SYMPTOMS

1. Shortness of breath
2. Anxiety
3. Crushing pain in chest, under breastbone, or radiating down left arm.
4. Ashen color
5. Possible perspiration and vomiting.

FIRST AID TREATMENT

Have someone call for medical help and in the meantime:

1. Place victim in a semi-reclining or sitting position.
2. Give oxygen if available.
3. Loosen tight clothing at the neck and waist.
4. Administer nitroglycerine pill if victim is carrying them and asks you to get them (they are administered by putting one under the tongue).
5. Keep onlookers away.
6. Comfort and reassure him.
7. Do not allow him to move around.
8. Give no stimulants.

(For use in all mining operations)

June 1980

HOLMES SAFETY ASSOCIATION MONTHLY SAFETY TOPIC

HEAT CRAMPS

Affects people who work or do strenous exercises in a hot environment.

SIGNS/SYMPTOMS

1. Painful muscle cramps in legs and abdomen
2. Faintness
3. Profuse perspiration

FIRST AID TREATMENT

1. Move victim to a cool place
2. Give him sips of salted drinking water (one teaspoon of salt to one quart of water)
3. Apply manual pressure to the cramped muscle

PREVENTION

1. People who work hard in high temperatures should drink large amounts of cool water
2. Add a pinch of salt to each glass of water

HEAT EXHAUSTION

Pale and clammy skin, perspiration.

SIGNS/SYMPTOMS

1. Pale and clammy skin
2. Profuse perspiration
3. Rapid and shallow breathing
4. Weakness, dizziness, and headache

FIRST AID TREATMENT

1. Care for victim as if he were in shock
2. Remove victim to a cool area, do not allow chilling
3. If body gets too cold, cover victim

HEAT STROKE

Red and flushed, skin hot and dry.

SIGNS/SYMPTOMS

1. Face is red and flushed
2. Victim becomes rapidly unconscious
3. Skin is hot and dry with no perspiration

(For use in all mining operations)

June 1980

HOLMES SAFETY ASSOCIATION MONTHLY SAFETY TOPIC

SAFE DRIVING CONDUCT

1. I will drive in an alert, courteous, and sane manner.
2. I will always operate my vehicle at a safe speed, and at no time will I take risks.
3. I will not drive when my senses and ability are affected by liquor, drugs, emotion, drowsiness, illness, or otherwise.
4. I will be ever-cautious toward pedestrians, keeping in mind that I, too, am often a pedestrian.
5. I will be tolerant toward other drivers.
6. I recognize that my right to drive a vehicle upon the streets and highways is a privilege that must be shared with others and not abused.
7. I will obey all traffic laws, signs, and signals.
8. I will never insist on my right-of-way or other traffic rights when, by my extending or granting the same right to the other driver, or pedestrian, I may prevent an accident or injury.
9. I will keep my vehicle in a safe and proper working condition at all times.
10. Above all, in my driving, I pledge that I will-- "Do Unto Others as I Would Have Others do Unto Me."

Is not this driving code worthy of your consideration?

(For use in all mining operations)

SAFETY IS EVERYBODY'S BUSINESS

ABSTRACT FROM FATAL ACCIDENT

June 1980

HOLMES SAFETY ASSOCIATION
MONTHLY SAFETY TOPIC

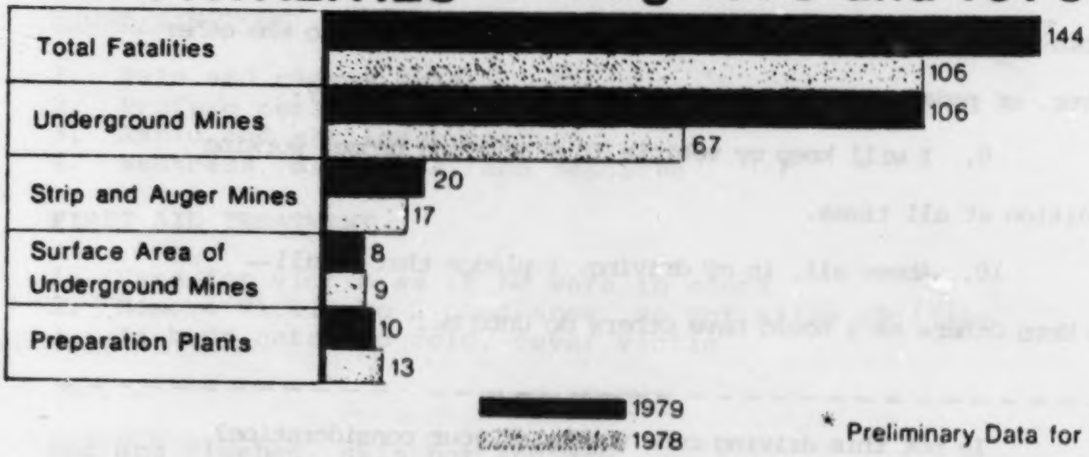
FATAL ROOF FALL ACCIDENT

General Information: **A roof fall accident occurred at the face of No. 1 left entry resulting in the death of a loading-machine operator helper. He had about one year and 10 months mining experience, the last 5½ months of which were as loading-machine operator helper.**

Description of Accident: The accident occurred when he was apparently attempting to test the roof inby the last row of permanent roof bolts or preparing to install temporary roof support, when he was struck by a falling piece of rock approximately 5 inches thick, 106 inches in width, and 120 inches long. The loading-machine operator stated that after loading the first four shuttle cars of coal he observed the loose roof and informed the victim on two occasions that the roof was loose and to get a long rock bar, located in the belt entry, to take the rock down with.

Cause of Accident: The accident occurred when the victim was apparently attempting to test the roof inby the last row of permanent roof supports or preparing to install temporary roof supports after having been informed on two occasions that the roof was loose and needed to be taken down.

COAL * FATALITIES During 1978 and 1979



* Preliminary Data for 1979

SAFETY IS EVERYBODY'S BUSINESS

ABSTRACT FROM FATAL ACCIDENT

June 1980

HOLMES SAFETY ASSOCIATION
MONTHLY SAFETY TOPIC

FATAL MATERIAL HANDLING ACCIDENT

General Information: A field supervisor was involved in a materials handling accident and died enroute to the hospital. The mine was a limestone quarry and plant. The limestone was drilled, blasted, and hauled by truck to the plant where it was crushed and sized. It was then transported by conveyor belts to holding bins which discharged into rotary kilns where it was heated to 2200 degrees F to make quicklime. The finished product was shipped by tank trucks to industry.

Description of Accident: On the day of the accident the victim started work at the regular starting time. The victim had been hired through contractors to install a new conveyor system.

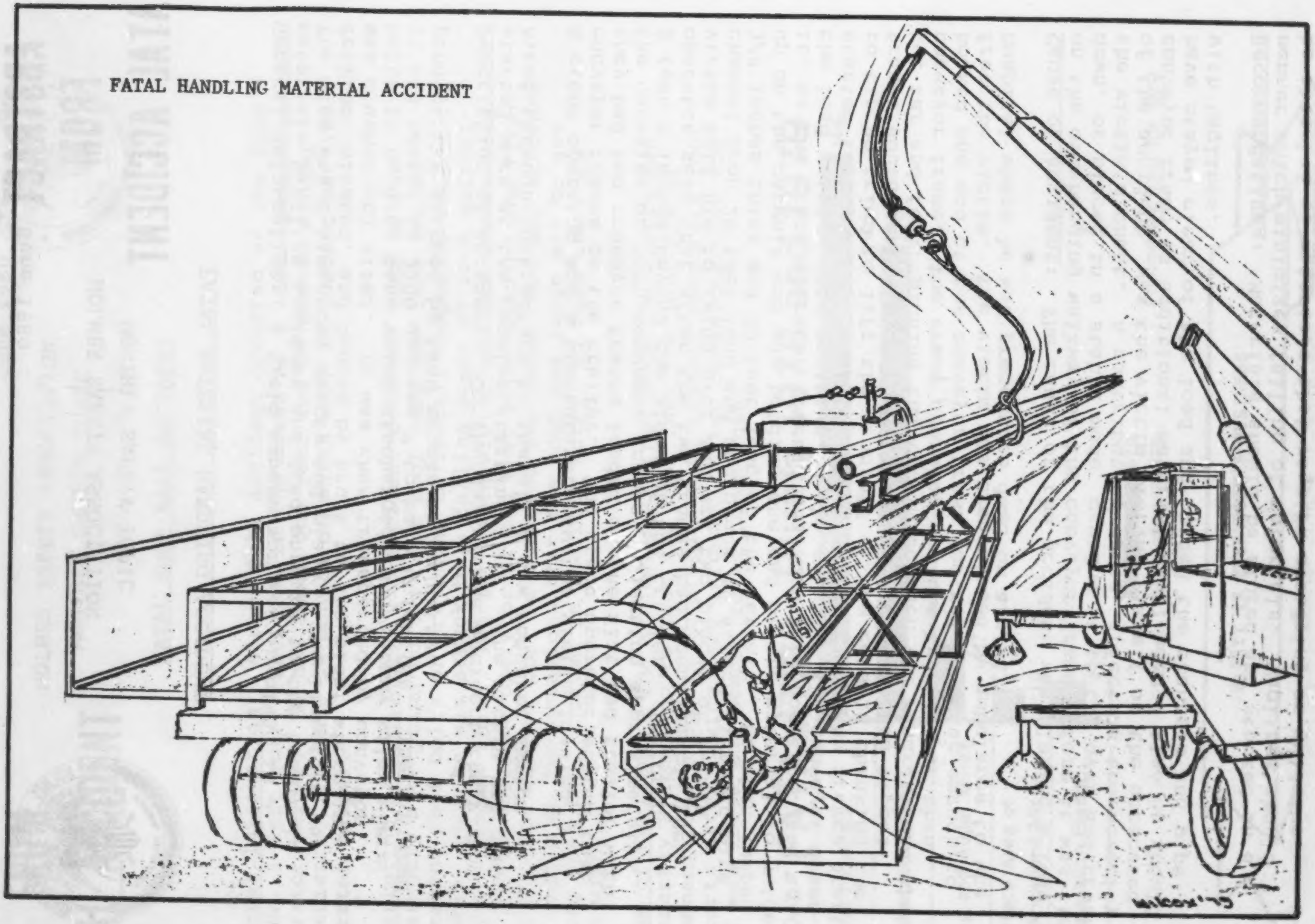
A crane operator and a truckdriver saw the victim loading conveyor frames on the trailer. The crane operator stated that they had two conveyor frames loaded on the flat bed trailer with the catwalks of both conveyor frames projecting approximately 2 feet 6 inches beyond the sides of the trailer. The crane operator said that after the two frames had been loaded, the victim told him to swing over and set two pieces of 8-inch channel iron 20 feet long and one piece of 4-inch diameter pipe 3/8 inches thick and 20 feet long on the catwalk. He then jumped up on the catwalk and was holding one end of the material to guide it, as the crane operator lowered the iron into position, and as the load settled into position on the catwalk, the conveyor frame started to tip over. When the crane operator saw the frames start to tip he tried to lift the iron off of the catwalk thinking the frames would settle back down; however, the frame had tipped too far and fell, pinning the victim between the handrail and the conveyor frame. The crane operator and the truckdriver then hooked one end of the conveyor frame and raised it up enough to free the victim. The victim was transported by ambulance to the hospital where he was pronounced dead on arrival.

Cause of Accident: The cause of the accident was placing a load on the overhanging walkway of the conveyor frame before it was tied down, or placed in a stable mode, causing it to tip over and crush the victim's chest. A contributing cause, affecting the severity of the accident, was the victim placing himself on the unsecured conveyor frame as additional material was loaded. Also he should have stayed clear of the load and guided the channels and pipe with taglines.

Recommendations: Materials should be stored and stacked in a manner which minimizes falling of materials. Taglines should be attached to materials that require steadying or guidance.

(For use in surface mining operations)

FATAL HANDLING MATERIAL ACCIDENT

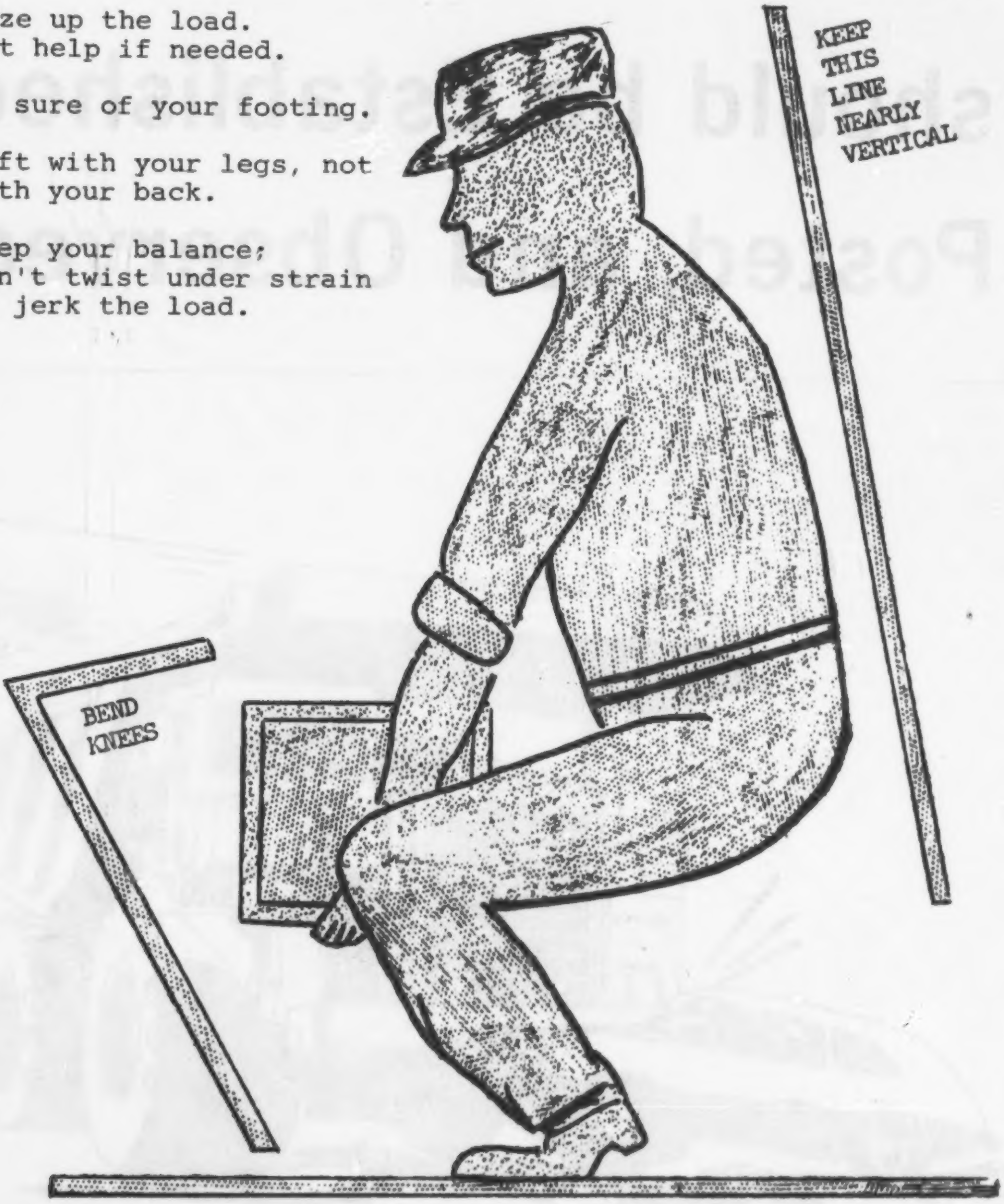


June 1980

HOLMES SAFETY ASSOCIATION MONTHLY SAFETY TOPIC

PROPER LIFTING TECHNIQUES

1. Size up the load.
   Get help if needed.
2. Be sure of your footing.
3. Lift with your legs, not
   with your back.
4. Keep your balance;
   don't twist under strain
   or jerk the load.


KEEP THIS LINE NEARLY VERTICAL
BEND KNEES

BULL STRENGTH IS NOT ENOUGH--YOU HAVE TO APPLY POWER WHERE IT COUNTS.

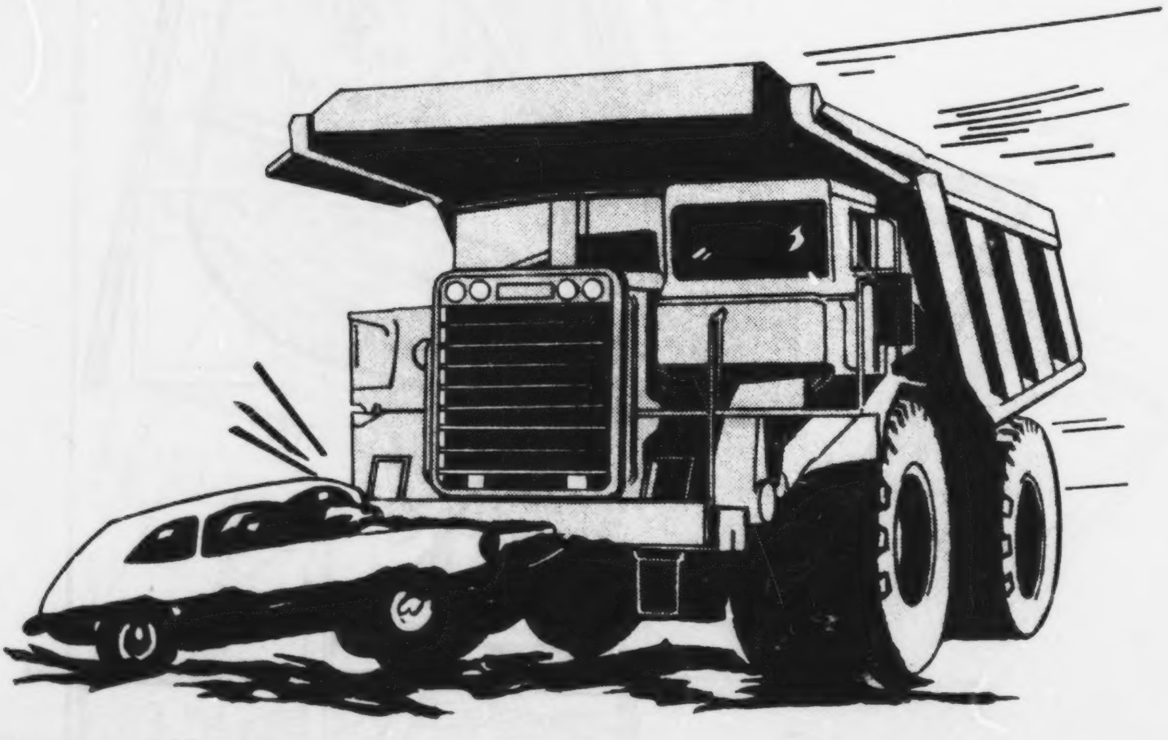
DO LIFTING JOBS MECHANICALLY, WHENEVER POSSIBLE. LIFT SAFELY.

(For use in all mining operations)

June 1980

HOLMES SAFETY ASSOCIATION

RIGHT-OF-WAYS should be Established, Posted, and Observed.



VOTE FOR SAFETY IN 1980

MSHA

* U.S. Government Printing Office: 1980-677-182/9

MSHA, Holmes Safety Association
Education and Training
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Denver, Colorado 80225

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HOLMES SAFETY ASSOCIATION
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SAFETY EFFICIENCY
MINERAL INDUSTRIES

BULLETIN

United States Department of Labor
MSHA
Mine Safety and Health Administration

L38.12:

July 1980

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9. Posters
10. Meeting Report Form (chapters only)

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July 1980

MINE SAFETY AND HEALTH ADMINISTRATION

HOLMES SAFETY ASSOCIATION

HIGHLIGHTS

Executive and Regular Meetings

National Council

Holmes Safety Association

The meetings were held at the Quality Inn/Central, 1190 North Courthouse Road, Arlington, Virginia, May 28, 1980, with President William A. Eastgate presiding.

Forty-five delegates from 14 states, representing the mining, quarrying, metallurgical, mineral-extractive, and allied industries were in attendance.

Fifteen delegates were called upon for brief activity reports from their geographical council areas.

Moved, carried, and adopted: Nine proposals were nominated for grateful appreciation and exceptional services in promoting the humanitarian objectives of the Holmes Safety Association; the Association's highest honor, the "Merit Award." President Eastgate presented the award to the following:

Jennings D. Breedon, subdistrict manager, MSHA, Monroeville, Pennsylvania;
Maurice S. Childers, district manager, MSHA, Vincennes, Indiana;
William M. Craft, district manager, MSHA, Madisonville, Kentucky
William R. Devett, subdistrict manager, MSHA, Johnstown, Pennsylvania;
David E. Hazlett, supervising engineer, Old Republic Insurance Company, Elderton, Pennsylvania
William H. Hoover, chief, Holmes Safety Association, MSHA, Tucson, Arizona;

Charles E. Jones, coal mine inspection supervisor, MSHA, Wilkes-Barre, Pennsylvania;
Angela B. Saunders, retired administrative services assistant, Holmes Safety Association, MSHA, North Huntingdon, Pennsylvania:
Harold Turner, coal mine specialist, MSHA, Pikeville, Kentucky.

In recognition for his untiring and sincere efforts in the promotion of mine safety and furthering the humanitarian activities of the Association, John Takacs, MSHA coal mine inspector, Washington, Pennsylvania, was presented the "Promotion of Safety" award. William A. Eastgate, past president, was awarded the "President Award" for outstanding leadership by the incoming president-elect, Walter J. Vicinelly.

Moved, carried, and adopted:

Elected to 1980-1981 term

President - Walter J. Vicinelly - State
First Vice President - Willard A. Esselstyn - Labor
Second Vice President - Robert B. Lagather MSHA
Third Vice President - C. William Parisi - Management
Secretary-Treasurer - William H. Hoover - MSHA

The following three delegates, representing the Holmes Safety Association, were elected to serve with the three previously elected on the board of directors of the Joseph A. Holmes Safety Association:

Term expires 1982

Edward J. Onuscheck
Walter J. Vicinelly
William H. Hoover

Six new members were nominated to serve on the executive committee bringing nationwide representation to 36 delegates.

Committees appointed by President Eastgate were:

Finance-Auditing Committee

John O. Miller (Chair)
Herschel Potter
Robert L. Vines

Merit-Awards Committee

Robert E. Barrett (Chair)
William H. Hoover
John O. Miller

Nominating Committee

Harry Thompson (Chair)
Earle Rudolph
David Hazlett

The National Council is now representing and servicing 4 state and 43 district councils, 1,429 safety chapters, with approximately 210,000 members within 43 states, plus the provinces of British Columbia, Ontario, and the Yukon Territory of Canada.

Of the 101 chapters formed in 1979, 34 were established west and 67 east of the Mississippi. At the close of 1979, there were 359 safety chapters west and 1,185 of the Mississippi including Canada.

Nationwide, chapter mines cooperatively reported and held over 88,740 safety meetings, with 1,033,335 members attending. State and district councils held 200 meetings, with 9,676 present.

The greatest organizational work chapter-wise in 1979 was in the states of Ohio, 14; Indiana, 9; Alabama and Eastern Kentucky, 8 each; Pennsylvania, 7; and Illinois and Montana, 6 each. The remaining 43 chapters were formed within 17 other states.

The nationwide circulation of the Holmes Safety Association's monthly safety "Bulletin" utilized for on-the-job safety meetings is continuously increasing.

The present status of the National, State, and District councils and chapters were highly complimented for their outstanding activities and methods of obtaining continuous improvements in the field of safety by many of the executives and delegates called to the floor for remarks representing management, labor, state, Federal, insurance companies, manufacturers and suppliers.

The delegates were very satisfied with the meeting room facilities, lodging, restaurant and hospitality suite all at one location. This saved the delegates a bit of energy, time and expense when previous meetings and lodging were less convenient.

Hats off to the Mine Safety Appliance Company, Fairmont Supply Company, and the Pennsylvania Bituminous Council who jointly sponsored the beverages and snacks, Tuesday evening, May 27, 1980.

President Walter J. Vicinelly heads a committee to raise financial sponsors for a hospitality night at the 1981 national meeting.

It was moved and carried that a contract be drawn up with the management of the Quality Inn/Central to hold the 1981 annual meeting at the same location.

W. H. Hoover
National Secretary
Holmes Safety Association

July 1980

HOLMES SAFETY ASSOCIATION MONTHLY SAFETY TOPIC

Why First Aid?

What would you do if a coworker or family member was suddenly injured or became ill? Right after an accident or illness occurs and before medical help can take over, there is a critical period in which the availability of a person skilled in first aid techniques can mean the difference between life and death for the victim.

There is an urgent need for first aid treatment at mining sites where medical help is usually not readily obtainable. It is the duty of every miner to be able to give proper emergency assistance until the victim is under professional medical care.

When a person is injured or ill, someone must take charge, send for a doctor, and apply first aid. The person taking charge must make a rapid but effective examination to determine the nature of the injuries.

Do not move the injured person until you have a clear idea of the injury and have applied first aid, unless the victim is exposed to further danger at the accident site. If the injury is serious, if it occurred in an area where the victim can remain safely, and if medical aid is readily obtainable, it is sometimes best not to attempt to move the person, but to employ such emergency care as is possible at the place until more highly qualified emergency personnel arrive.

When making an initial survey, a first aider will consider what witnesses to the accident tell him about the accident, what he observes about the victim, and what the victim tells him.

The first aider must not assume that the obvious injuries are the only ones present because less noticeable injuries may also have occurred. Look for the causes of the injury, this may provide a clue as to the extent of physical damage.

While there are several conditions that can be considered life-threatening, respiratory arrest and severe bleeding require attention first.

In all actions taken during the initial survey the first aider should be especially careful not to move the victim any more than necessary to support life. Any unneccessary movement or rough handling should be avoided because it might aggravate undetected fractures or spinal injuries.

SAFETY IS EVERYBODY'S BUSINESS

(For use in all mining operations)

Once respiratory arrest and severe bleeding have been alleviated, attention should be focused on other obvious injuries--open chest or abdominal wounds should be sealed, open fractures immobilized, burns covered and less serious bleeding wounds dressed. Again remember to handle the victim carefully.

Once the obvious injuries have been treated, the secondary survey can be made to detect less easily noticed injuries that can be aggravated by mishandling. If a victim with a spinal injury is mishandled they could suffer spinal damage, leading to paralysis. Also a closed fracture can become an open fracture if not immobilized. The secondary survey is a head to toe examination. Start by examining the victim's head, then neck, trunk, and extremities looking for any type of abnormalities such as swelling, discoloration, lumps, and tenderness that might indicate an unseen injury.

ABSTRACT FROM FATAL ACCIDENT

July 1980

HOLMES SAFETY ASSOCIATION
MONTHLY SAFETY TOPIC

FATAL ROOF FALL ACCIDENT

General Information: A roof fall accident occurred at the face of No. 1 left entry of a mine resulting in the death of a loading machine operator helper. The victim had about one year and 10 months mining experience, the last 5½ months of which were as loading machine operator helper.

Description of Accident: The 103 section crew, under the supervision of their foreman, entered the mine via portal bus, and traveled to the active working areas of the 103 section. The foreman then proceeded to examine the proposed work area and assign duties and work locations to crew members. The regular loading machine operator became ill and left the section. An experienced loading machine operator was called from a nearby section to operate the loading machine on the 103 section. In the meantime, the loading machine operator helper and the face drill operator operated the loading machine until the new operator arrived on the section. The new operator stated that after arriving on the section he informed the loader operator helper, the victim, that he could operate the loading machine. He declined the offer. Thereafter, coal production and preparation activities continued normally until a shuttle car trailing cable was cut.

Operations were resumed after the cable was repaired. The loader crew, consisting of the operator and the helper finished cleaning up the belt entry. Upon completion, they trammed the loading machine to the crosscut between the belt entry and No. 1 left air course. The operator then made a roof and gas test at the face. Loading operations were started in the No. 1 left air course. The operator stated that after loading four shuttle cars of coal out of the right side he saw a piece of draw rock that was loose inby the last row of roof bolts. The draw rock from the previous cut had been taken down and bolted up to the edge of the draw rock that was loose. The operator loaded two or three more shuttle cars and informed the helper to get a long rock bar that was located in the belt entry where they had scaled some brushed roof. The operator stated that they would take the rock down and load it out with the coal.

According to the operator, after a short period of time, he again instructed the helper to get the rock bar to take the rock down. The operator continued loading until the place was cleaned up except for approximately one shuttle car of coal that remained in

(For use in coal mining operations)

the left corner of the face. He was maneuvering the loading machine around to get in position to load the last shuttle car of coal and was looking back observing the direction of travel.

The shuttle car operator stated that after returning to the loading machine he observed the helper near the rib adjacent to the loading machine. After backing the shuttle car up to allow the loading machine maneuvering room, he turned back around and saw the roof fall at the face. He explained that he and the operator immediately investigated the fall and found that the helper was under the rock. They called for help after making an effort to move the rock. After the rock was moved, the victim was examined and no sign of life was visible. The victim received crushing injuries to the head and face.

Cause of Accident: The accident occurred when the victim was apparently attempting to test the roof inby the last row of permanent roof supports or preparing to install temporary roof supports after having been informed on two occasions that the roof was loose and needed to be taken down.

July 1980

HOLMES SAFETY ASSOCIATION MONTHLY SAFETY TOPIC

WEARING AND CARING FOR HARD HATS

1. Hard hats should never be worn on top of everyday hats and caps.
2. The sweatband should be adjusted so that the hat will not fall off or be blown off.
3. Hats should be worn squarely on the head, and not at an angle. The head harness is designed to give the otpimum contact surface on the head.
4. The wearer should never attempt to repair a cracked shell. Damaged hats should be replaced immediately.
5. All hats and caps are designed to permit complete air circulation inside the crown. Boring holes in the crown for ventilation should be prohibited.
6. Some paints will reduce the dielectric protection, soften the shell material, and thus reduce impact protection.
7. A periodic inspection of hard hats should be made to check for cracks, dents, nicks, and abrasions.
8. Inspection of hats should include a check of the condition of webbing and sweatband.
9. Hats used primarily for electrical protection must be destroyed when damaged.
10. There should be at least 1-¼ inches of clearance between the top of the head and the inside shell of the hat for impact protection and ventilation.

(For use in all mining operations)

SAFETY IS EVERYBODY'S BUSINESS

ABSTRACT FROM FATAL ACCIDENT

July 1980

HOLMES SAFETY ASSOCIATION
MONTHLY SAFETY TOPIC

FATAL ELECTRICAL ACCIDENT

General Information: A wash plant operator was fatally injured when he was electrocuted by a 480 volt short-circuited phase-to-ground fault.

The victim was attempting to remove a water hose inside the feed hopper of the cone crusher. The water hose which was held in place by a wire was connected to the adjacent feed conveyor. The victim had 13 months working experience.

Mining was being done by the single bench method using a scraper to extract and haul the material to the dumping site. The material was then transported by conveyor to be crushed, screened, and stockpiled.

Description of Accident: The front-end loader operator was hauling rock to the crusher with a front-end loader, when the plant operator (victim) arrived and assumed his duties of plant operator for about a half hour. The victim then decided that he needed to reposition the water hose in the feed hopper on top of the cone crusher to suppress the dust. After climbing up the side of the crusher, he positioned himself on the steel work platform approximately 4 feet below the top of the feed hopper and reached into the hopper to move the hose. The hose was secured with baling wire to the steel frame of C-96 conveyor, which extended over the hopper. When he reached into the hopper, the inside of his right arm contacted the metal side, at the same time that he grasped the baling wire, holding the hose with his left hand. His body, acting as a conductor, completed the short circuit. The conveyor and cone crusher were not physically or electrically bonded together. When the victim standing on the cone crusher contacted the C-96 conveyor his body created the short circuit between the two grounded phases exposing him to the elevated voltage of 480 volts.

The plant laborer and the front-end loader operator, at the same time noticed that the victim was in an abnormal position, and that his hat had fallen from his head. The front-end loader operator climbed up to the victim, touched him and both reportedly received electrical shocks. The front-end loader operator had touched the victim a second time before he realized that the victim was being held by the electrical current. He instructed the plant laborer, not to touch the victim. He jumped to the ground and ran to the switch panel to switch the power off. When the power was off, the victim started to fall and the plant laborer grabbed him and they both fell from the platform to the ground. It was determined that

(For use in all surface mining operations) no injuries were sustained from the fall. The front-end loader operator returned, and started doing chest compressions while the plant laborer went for help. The plant foreman arrived a few minutes later and performed mouth-to-mouth resuscitation. None of the persons present at the time of the accident had been trained in C.P.R. The company had an MSHA-approved training program, but had not put it into effect at the time of this investigation. An ambulance was called and the paramedics administered C.P.R. and started an intravenous on the victim while transporting him to the hospital. He was pronounced dead upon arrival at the hospital. The cause of death was due to electrocution.

Cause of Accident: The company failed to detect two separate ground faults and the company failed to maintain the grounding circuit properly.

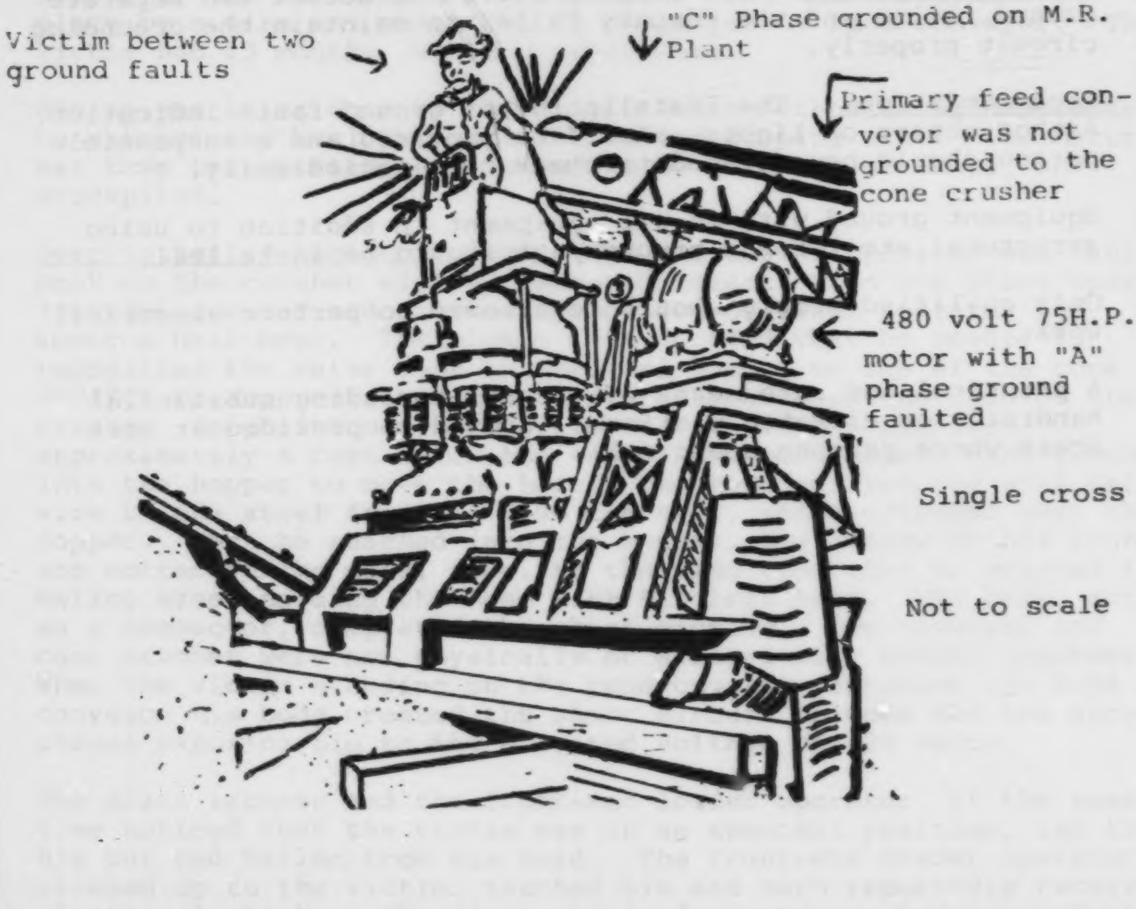
Recommendations: The installation of ground fault indication, either meters or lights, should be provided and a responsible person should be assigned to check them periodically.

Equipment ground wire to all equipment in addition to using structural steel for a ground path should be installed.

Only qualified people should be allowed to perform electrical work.

A practical and safe means of access, including substantial handrails on elevated platforms, should be provided at work areas where persons could fall.

FATAL ELECTRICAL ACCIDENT


Victim between two ground faults
"C" Phase grounded on M.R. Plant
Primary feed conveyor was not grounded to the cone crusher
480 volt 75H.P. motor with "A" phase ground faulted
Single cross
Not to scale

July 1980

HOLMES SAFETY ASSOCIATION MONTHLY SAFETY TOPIC

ABANDONED MINE WARNING

The Mine Safety and Health Administration (MSHA) warns prospectors, exploring youngsters and vacationers that trespassing in quarries, sand and gravel pits, and abandoned or closed mines often results in serious injury or death.

Each year, especially in the spring and summer many incidents occur on surface and underground mining properties to trespassers unfamiliar with the dangers of the mining environment. Although the 1977 Mine Safety and Health Act makes mandatory the sealing of abandoned mines, MSHA emphasizes that the condition and whereabouts of literally thousands of mines abandoned prior to passage of the Act are unknown.

"Adults have no business venturing into areas not open to the public, and they should be careful, watchful and responsible in seeing that their children obey the same rules," Assistant Secretary for Mine Safety and Health Robert B. Lagather said. "Abandoned, idle mining properties are inherently dangerous, and using them for irresponsible play could turn a vacation into a nightmare."

Examples of the disasters abound. Last September in Pennsylvania, two boys died of asphyxiation after entering an abandoned mine shaft while playing. In an attempt to recover them, a police officer was also overcome and died several days later. Tests proved the deaths were caused by low oxygen and high carbon dioxide.

In December, while digging coal in an abandoned mine in Tennesse another man was electrocuted using an unsafe water pump.

The accidents do not always involve underground mines. Recently, in an abandoned quarry also in Tennessee, a teenage girl was killed when a 100-foot highwall collapsed, burying her under nearly 10 tons of rock and dirt.

Such accidents are common in pits or quarries used as playgrounds by children. In New York and Vermont alone, there were reported 17 known incidents in abandoned surface mines in 1979, two of which were fatal. All but two of the accidents involved children.

State governments around the country have not ignored the problem, and several are taking measures to locate and seal abandoned mines. Pennsylvania, for example, has an abandoned mine-filling program, and state mine reclamation officials in Illinois say they plan to fill and seal shafts at 30 to 40 abandoned mine sites in the southern part of the state this year.

(For use in all mining operations)

SAFETY IS EVERYBODY'S BUSINESS

Besides the hazards of open underground mine shafts and improperly sloped surface mine highwalls, some abandoned mines have dilapidated surface structures that could be dangerous.

Whether in search of fun, adventure or profit, the fact is that no one should trespass on abandoned mining property. The dangers cannot be ignored. What begins as an enjoyable outing could end in disaster.

ABSTRACT FROM FATAL ACCIDENT

July 1980

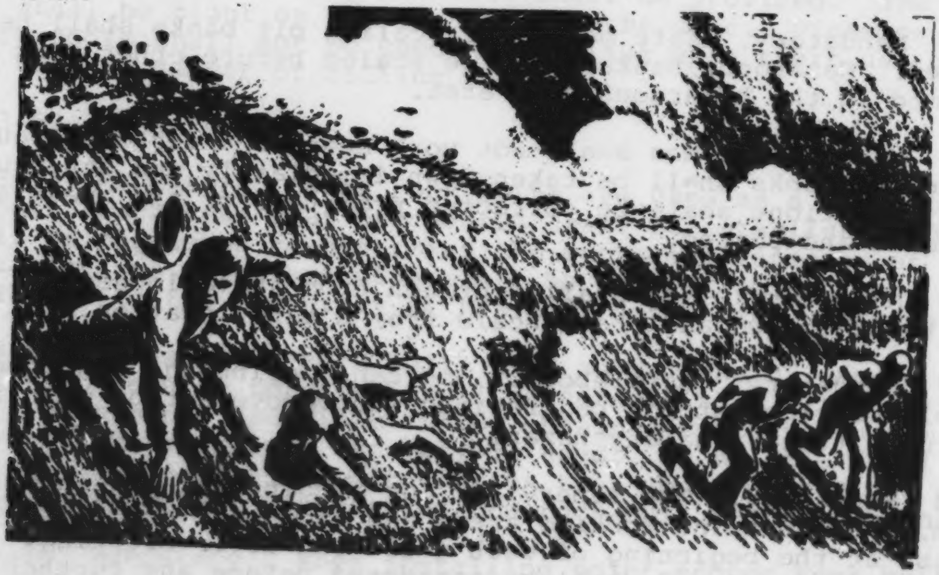
HOLMES SAFETY ASSOCIATION
MONTHLY SAFETY TOPIC

SAFE CONTROL OF PIT WALLS

General Information: Three youthful, temporary summer employees, ages 18 to 23, all inexperienced in mining and in their first day on this job, died when they were engulfed in a slide of sand and gravel which sloughed down from a near-vertical face in a sand and gravel pit.

Description of Accident: The material in this sand and gravel deposit was somewhat consolidated and stood in a face 55 feet high. Loose material was piled along the base to make the free face about 40 feet. The victims had been assigned to dig blast holes in this face manually, using long handled shovels. While they were doing so, a large section of 30 to 60 cubic yards sloughed off from above, enveloping them.

Recommendations: 1. Standards for the safe control of pit walls shall be established and followed by the operator. Mining methods shall be selected which will ensure wall and bank stability. 56.3-1 (Mandatory) 2. Miners shall not work near or under dangerous banks. Overhanging banks shall be taken down immediately or the areas shall be barricaded and posted. 56.3-5 (Mandatory) 3. New employees shall be indoctrinated in safety rules and safe work procedures. 56.18-6 (Mandatory)



(For use in all surface mining operations)

July 1980

HOLMES SAFETY ASSOCIATION MONTHLY SAFETY TOPIC

Excerpts from Code of Federal Regulations

Subchapter N--Metal and Nonmetal Mine Safety

Part 55.3--Ground Control

55.3-1 Mandatory. Standards for the safe control of pit walls, including the overall slope of the pit wall, shall be established and followed by the operator. Such standards shall be consistent with prudent engineering design, the nature of the ground and the kind of material and mineral mined, and the ensuring of safe working conditions according to the degree of slope. Mining methods shall be selected which will ensure wall and bank stability, including benching as necessary to obtain a safe overall slope.

55.3-2 Mandatory. Loose, unconsolidated material shall be stripped for a safe distance, but in no case less than 10 feet, from the top of pit or quarry walls, and the loose, unconsolidated material shall be sloped to the angle of repose.

55.3-3 Mandatory. To ensure safe operation, the width and height of benches shall be governed by the type of equipment to be used and the operation to be performed.

55.3-4 Mandatory. Safe means for scaling pit banks shall be provided. Hazardous banks shall be scaled before other work is performed in the hazardous bank area.

55.3-5 Mandatory. Men shall not work near or under dangerous banks. Overhanging banks shall be taken down immediately and other unsafe ground conditions shall be corrected promptly, or the areas shall be barricaded and posted.

55.3-6 Mandatory. Men shall approach from above loose rock and areas to be scaled and shall scale from a safe location.

55.3-7 Mandatory. Baffleboards, screens, cribbing, or other suitable barriers should be provided where movement of material into cuts constitutes a safety hazard.

55.3-8 Mandatory. The supervisor, or a competent person designated by him, shall examine working areas and faces for unsafe conditions at least at the beginning of each shift and after blasting. Any unsafe condition found shall be corrected before any further work is performed at the immediate area or face at which the unsafe condition exists.

(For use in all mining operations)

55.3-9 Mandatory. Men shall examine their working places before starting work and frequently thereafter, and any unsafe condition shall be corrected.

55.3-10 Banks, benches, and terrain sloping into the working areas should be examined after every rain, freeze, or thaw, before men work in such areas.

55.3-11 (Reserved)

55.3-12 Mandatory. Men shall not work between equipment and the pit wall or bank where the equipment may hinder escape from falls or slides of the bank.

55.3-13 Rock-bolt installations, where used, should be in accordance with recommendations of the Mine Safety and Health Administration or other competent agency.

55.3-14 through 55.3-49 (Reserved)

55.3-50 Mandatory. Material, other than hanging material, to be broken by secondary drilling and blasting, or by any other method shall be positioned or blocked to prevent hazardous movement before persons commence breaking operations. Persons who perform those operations shall work from a location where, if movement of material occurs, those persons will not be endangered.

55.3-51 Mandatory. Where manual scaling may be required at a work place, a scaling bar of sufficient length to place the user out of danger of falling material shall be provided. The scaling bar shall be blunt on the end held by the user. Picks or other short tools shall not be used for scaling when their use places the user in danger of falling material.

55.3-52 (Reserved)

55.3-53 Mandatory. When rock bolts are used as a means of ground support, anchorage test procedures shall be established and test, shall be conducted to determine the anchorage capacity of rock-bolt installations. Test results shall be in writing and made available to the Secretary or his duly authorized representative.

55.3-54 Mandatory. Rock bolts used as a means of ground support and which require torquing shall be torqued to a value within the range determined from information obtained by tests in the strata in which the rock-bolt assembly is used. In no case shall the applied torque cause a bolt tension that would exceed the yield point or anchorage capacity of the rock-bolt assembly being used.

55.3-55 Mandatory. When installing point-anchor rock bolts:
(a) A torque test shall be conducted on at least every fourth installed bolt.

(b) Torque testing shall be conducted immediately after bolt installation.

(c) If the recommended torque has not been achieved, the equipment used to install the bolt shall be adjusted and the next bolt installed shall then be tested.

(d) If the recommended torque has not been achieved on the majority of bolts installed in a working place through equipment adjustment, supplemental support equivalent to longer roof bolts with adequate anchorage, steel or wood sets, or cribs shall be installed.

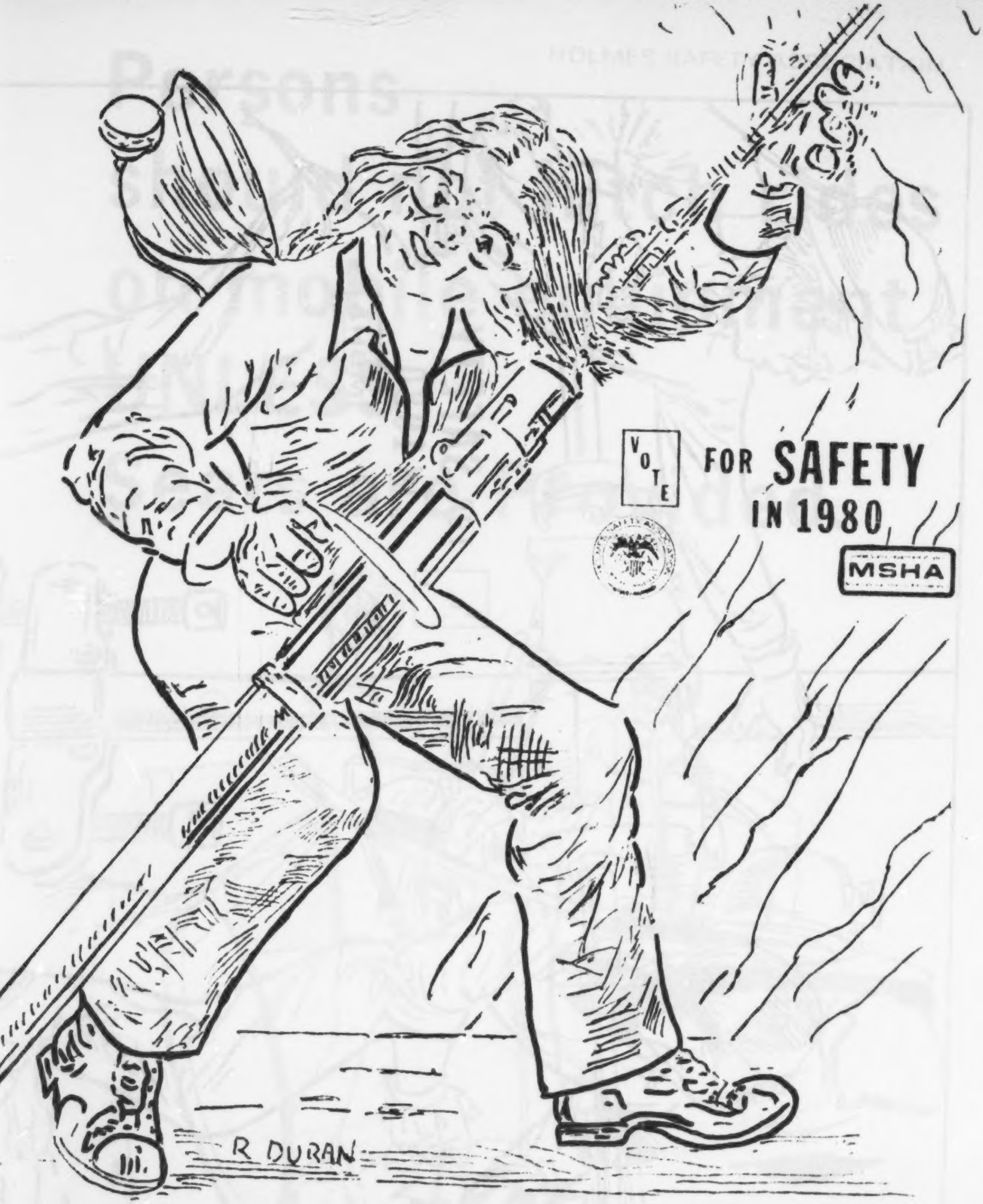
55.3-56 Mandatory. Rock bolt hole drill bits shall be easily identifiable by sight or feel and diameters shall be within a tolerance of ±0.030-inches of the manufacturer's recommended hole diameter for the anchor used.

55.3-57 Mandatory. If used in rock-bolt assemblies to reduce friction between the bolt head and the bearing plate, washers shall:

(a) Have hardness in the range of 35-45 HRC (Hardness Rockwell C Scale).

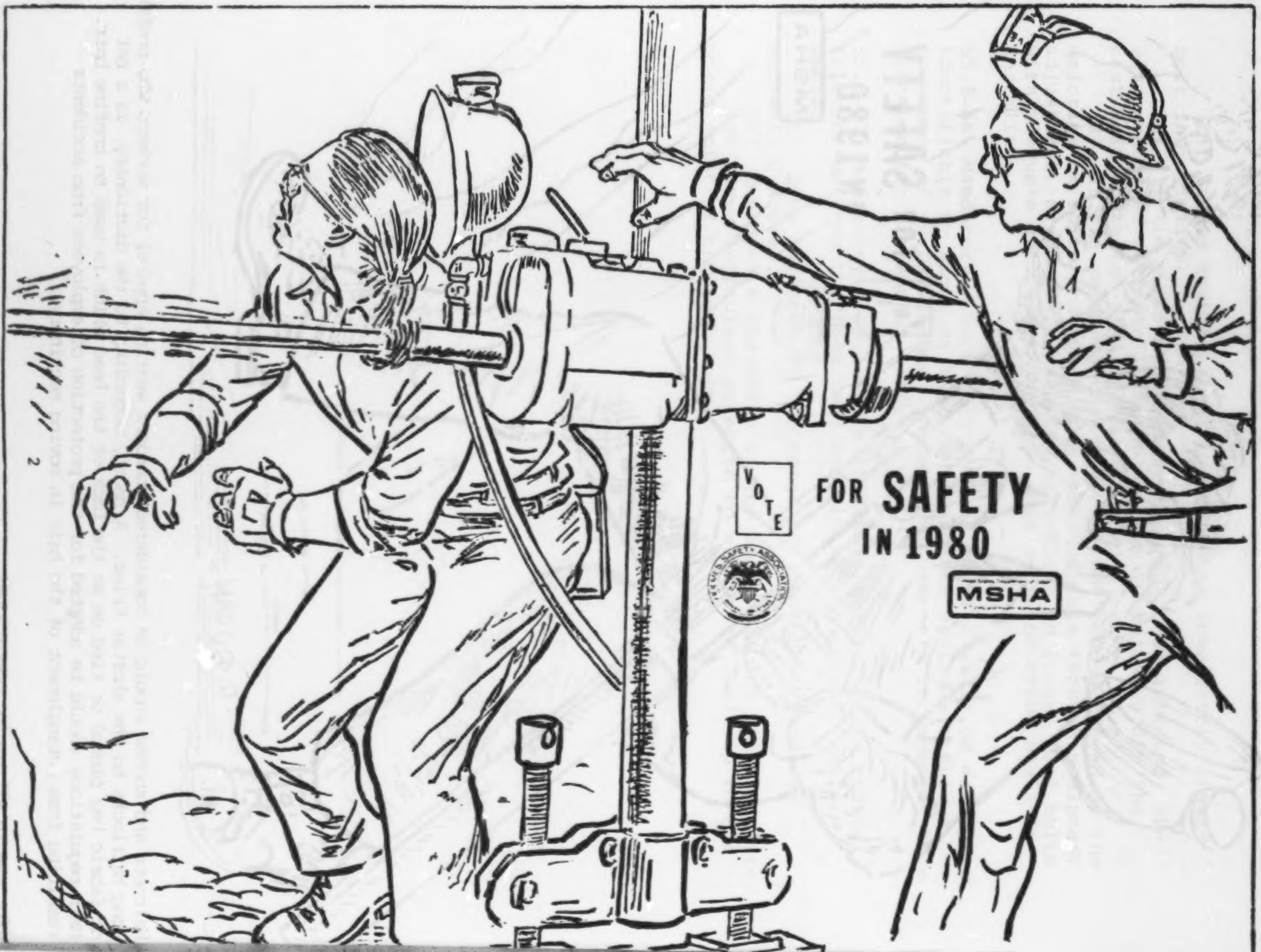
(b) Conform to the shape of the bolt head and bearing plate.

(c) Have sufficient strength to withstand loads up to the yield point of the rock bolt.



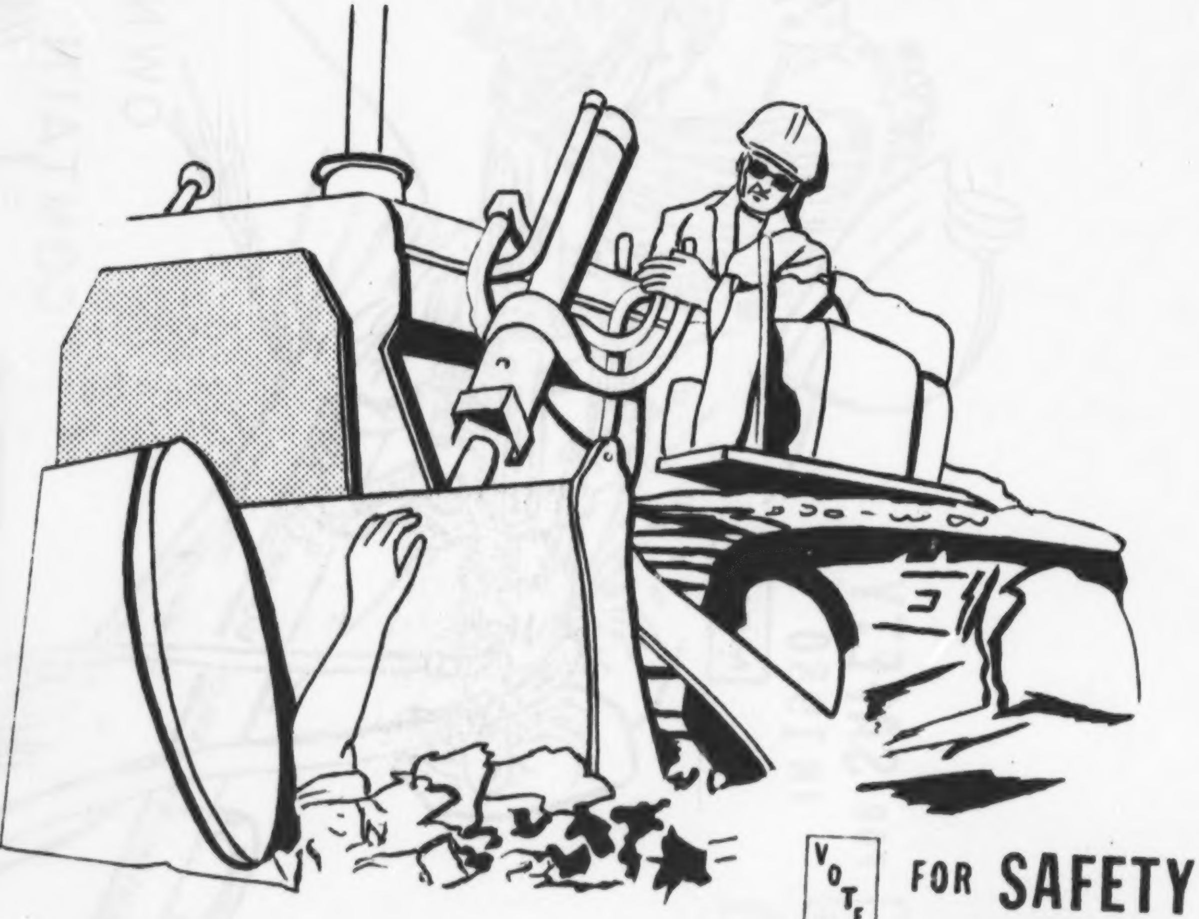
airnets and snoods should be considered standard wearing apparel for workers who prefer ong hairlocks to the shorter trims. A snood, according to the dictionary, is a net r fabric bag pinned or tied on at the back of the head which is used to confine hair. air regulations should be adopted for the protection of employees from accidents esulting from entanglement of the hair in moving machinery.

For use in all mining operations)


VOTE FOR SAFETY IN 1980
MSHA

HOLMES SAFETY ASSOCIATION

Persons should not hitch rides on mobile equipment UNLESS Seats are Provided.



VOTE FOR SAFETY IN 1980

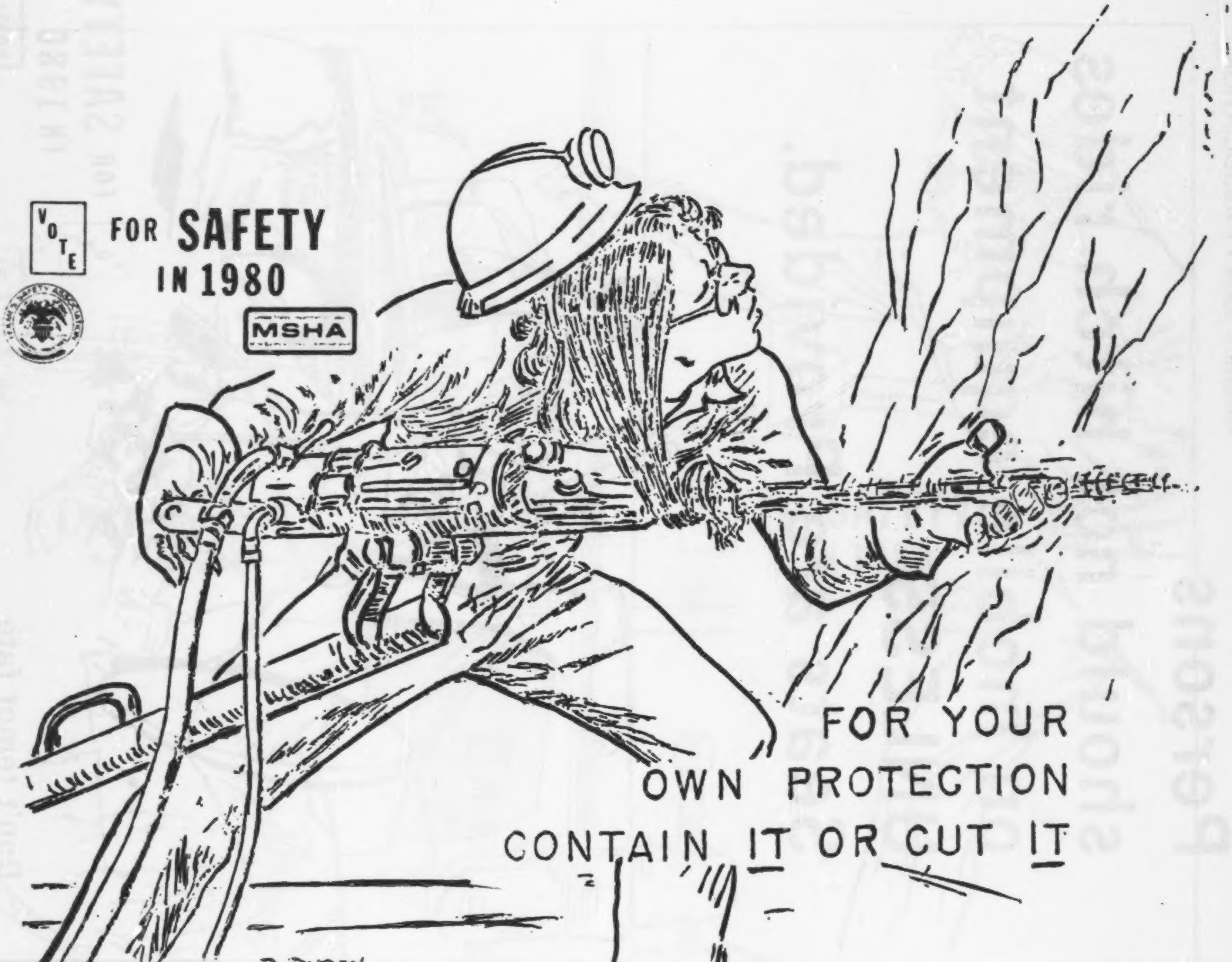
Don't tempt fate

MSHA

☆ U.S. Government Printing Office: 1980-677-182/10

VOTE FOR **SAFETY** IN 1980

MSHA



FOR YOUR
OWN PROTECTION
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HOLMES SAFETY ASSOCIATION
SAFETY EFFICIENCY
MINERAL INDUSTRIES

BULLETIN

United States Department of Labor
MSHA
Mine Safety and Health Administration

L38.12:

August 1980

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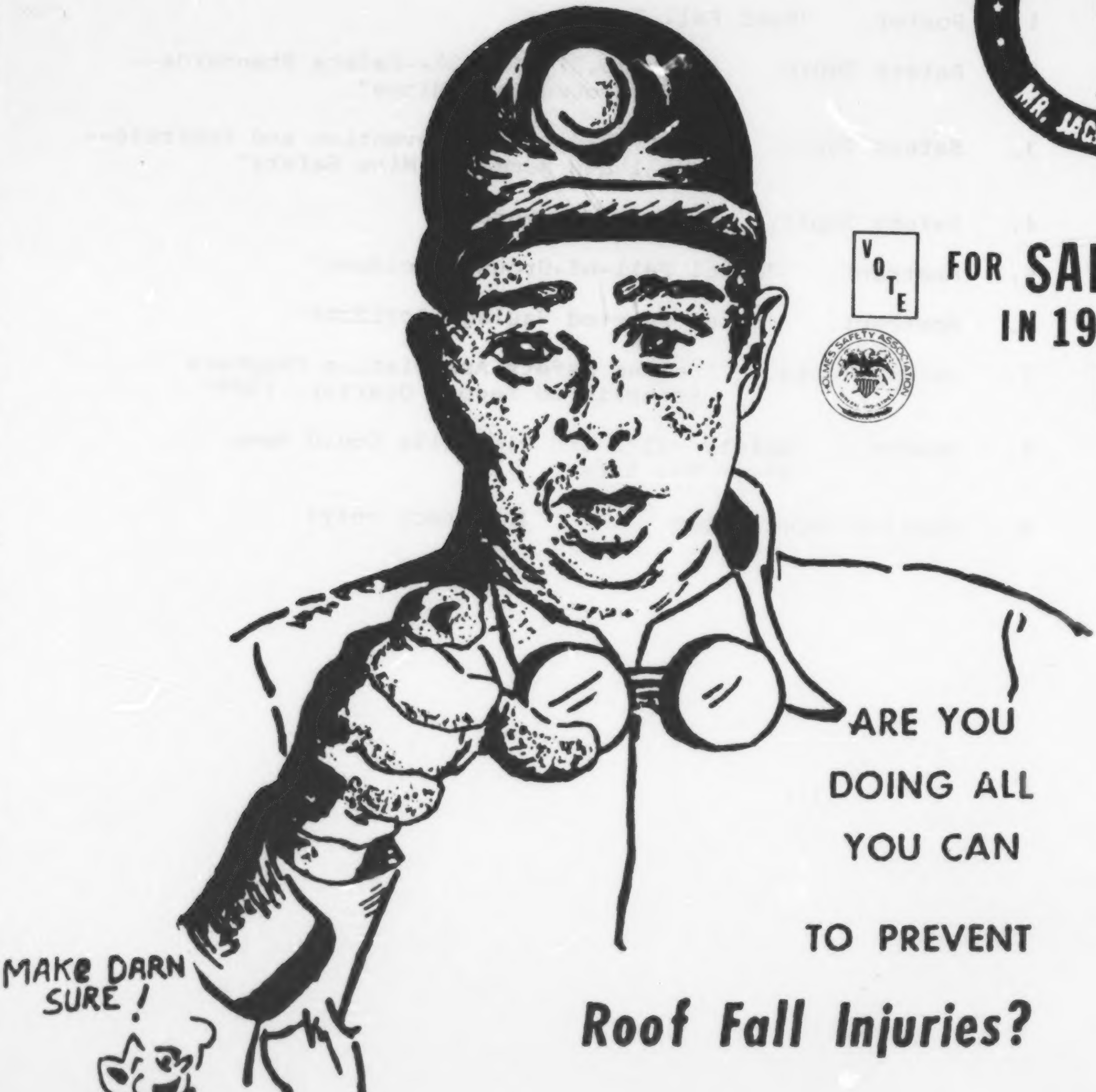
HOLMES SAFETY ASSOCIATION

HOLMES SAFETY ASSOCIATION
MR. JACK SAFETY

VOTE FOR SAFETY
IN 1980

HOLMES SAFETY ASSOCIATION

MSHA


ARE YOU
DOING ALL
YOU CAN
TO PREVENT
Roof Fall Injuries?
MAKE DARN SURE!

August 1980

HOLMES SAFETY ASSOCIATION MONTHLY SAFETY TOPIC

Excerpts from Code of Federal Regulations

Mandatory Safety Standards--Underground Coal Mines

Part 75.319-1--Mechanized Mining Section

The term "mechanized mining section" means an area of a mine in which coal is mined with one set of production equipment, characterized in a single loading machine, or in a continuous mining section by a single continuous mining machine, and which is comprised of a number of contiguous working places. Specialized mining sections, such as longwall mining sections, which utilize equipment other than specified in this, may, if approved by the Coal Mine Safety District Manager, be ventilated by a single split of air.

The use of two coal-cutting machines on the same split of air shall be permitted if, after an evaluation of the affected section it is determined that they do not cause a hazard due to methane liberations, cause noncompliance with the respirable dust standard, or cause any other condition having less than the same degree of safety as the single coal-cutting machine.

Part 75.320--Examinations for Methane Before Blasting

In all underground areas of a coal mine, immediately before firing each shot or group of multiple shots and after blasting is completed, examinations for methane shall be made by a qualified person with means approved by the Secretary for detecting methane. If methane is found in amounts of 1.0 volume per centum or more, changes or adjustments shall be made at once in the ventilation so that the air shall contain less than 1.0 volume per centum of methane. No shots shall be fired until the air contains less than 1.0 volume per centum of methane.

Examinations for methane shall be made at all construction sites such as overcasts, boom holes, roof falls and other similar construction areas.

(For use in underground coal mines)

SAFETY IS EVERYBODY'S BUSINESS

August 1980

HOLMES SAFETY ASSOCIATION MONTHLY SAFETY TOPIC

Excerpts from Code of Federal Regulations

Subchapter N--Metal and Nonmetal Mine Safety

Part 55.4--Fire Prevention and Controls

All of the standards are mandatory; violation of a standard will subject the mine operator to an order or notice of violation as required by Section 8 of the Act.

55.4-1 Mandatory. No person shall smoke or use an open flame--
- (a) where flammable solvents, liquids, fluids, or other flammable materials are stored, transported, handled, or used; or
- (b) where oil or grease is stored, transported, handled, or used, if smoking or the use of an open flame may cause a fire; or
- (c) within an unsafe distance of any area where smoking or the use of an open flame may cause a fire or explosion.

55.4-2 Mandatory. Signs warning against smoking and open flames shall be posted so they can be readily seen in areas or places where fire or explosion hazards exist.

55.4-3 Mandatory. Areas surrounding electric substations and unburied tanks used for the storage of flammable or combustible liquids shall be free of combustible materials (including dry vegetation) for a distance of at least 25 feet.

55.4-4 Mandatory. Flammable liquids shall be stored in accordance with standards of the National Fire Protection Association or other recognized agencies approved by the Mine Safety and Health Administration. Small quantities of flammable liquids drawn from storage shall be kept in appropriately labeled safety cans.

55.4-5 Mandatory. Effective February 13, 1980, fixed unburied tanks used for the storage of flammable or combustible liquids shall be securely mounted on firm foundations. Where necessary to prevent leaks caused by tanks settling, piping shall be provided with flexible connections or other special fittings.

55.4-6 (Reserved).

(For use in surface metal and nonmetal mines)

SAFETY IS EVERYBODY'S BUSINESS

55.4-7 Mandatory. Means shall be provided to remove or control spilled flammable or combustible liquids.

55.4-8 Mandatory. Fuel lines shall be equipped with valves to cut off fuel at the source and shall be located and maintained to minimize fire hazards.

55.4-9 Mandatory. All heat sources, including lighting equipment, capable of producing combustion shall be insulated or isolated from combustible materials.

55.4-10 Mandatory. Power wires and cables shall be adequately insulated where they pass through doors or walls or where they present a fire hazard.

55.4-11 Mandatory. Abandoned electrical circuits shall be deenergized and isolated so that they cannot become energized inadvertently.

55.4-12 Mandatory. All flammable and combustible waste materials, grease, lubricants or flammable liquids shall not be allowed to accumulate where they can create a fire hazard.

55.4-13 Mandatory. In areas where materials such as oily waste or oily rags create a fire hazard, the materials shall be placed in covered metal containers until disposed of properly.

55.4-14 Mandatory. Solvents with flash points lower than 100°F. (38°C.) shall not be used for cleaning.

55.4-15 Mandatory. Solvents shall not be used near an open flame or other ignition source, or near any source of heat, or in an atmosphere that can elevate the temperature of the solvent above the flash point.

55.4-16 Mandatory. Drip pans shall be provided to catch leakage, or spillage whenever combustible or flammable liquids are dispensed in a place or manner which may create a fire hazard. Floor areas where drip pans are used shall be cleaned immediately after spills.

55.4-17 (Reserved).

55.4-18 Mandatory. Oxygen cylinders shall not be stored in rooms or areas used or designated for oil or grease storage.

55.4-19 Mandatory. Gages and regulators used with oxygen or acetylene cylinders shall be kept clean and free of oil and grease.

55.4-20 Mandatory. Battery-charging stations shall be located in well-ventilated areas.

55.4-21 Mandatory. Equipment powered by internal combustion engines (except diesel engines), where the fuel tank is an integral part of the equipment, shall be shut off and stopped before being fueled.

55.4-22 Mandatory. Each mine shall have available or be provided with suitable fire fighting equipment adequate for the size of the mine.

55.4-23 Mandatory. Fire fighting equipment which is provided on the mine property shall be strategically located, readily accessible, plainly marked, properly maintained, and inspected periodically. Records shall be kept of such inspections.

55.4-24 Mandatory. Fire extinguishers and fire suppression devices shall be:
(a) Of the appropriate type for the particular fire hazard involved.
(b) Adequate in number and size for the particular fire hazard involved.
(c) Replaced with a fully charged extinguisher or device, or recharged immediately, after any discharge is made from the extinguisher or device.
(d) Inspected, tested, and maintained at regular intervals according to manufacturer's recommendations.
(e) Approved by the Underwriter's Laboratories, Inc., or other competent testing agency acceptable to the Mine Safety and Health Administration.

55.4-25 Mandatory. Effective February 13, 1980, whenever fire hydrants are used, they shall be provided with--
(a) Uniform fittings;
(b) Readily available wrenches or keys to open the valves; and,
(c) Readily available adapters that connect hydrant fittings to the hose equipment of local fire departments.

55.4-26 Mandatory. Water pipes, valves, outlets, hydrants, and hoses designated for fire fighting purposes shall be inspected every 90 days and tested annually.

55.4-27 Mandatory. Whenever self-propelled mobile equipment is used, such equipment shall be provided with a suitable fire extinguisher readily accessible to the equipment operator.

55.4-28 Mandatory. Welding, cutting, arc welding or soldering shall be performed by a competent person.

55.4-29 Mandatory. When welding or cutting, suitable precautions shall be taken to ensure that smoldering metal or sparks do not result in a fire. Fire extinguishering equipment shall be immediately available at the site.

55.4-30 through 55.4-32 (Reserved).

55.4-33 Mandatory. Valves on oxygen and acetylene tanks shall be kept closed when the contents are not being used.

55.4-34 (Reserved).

55.4-35 Mandatory. Before any heat is applied to pipelines or containers which have contained flammable or combustible substances, they shall be drained, ventilated, thoroughly cleaned of residual substances and filled with either an inert gas or, where compatible, filled with water.

55.4-36 through 55.4-38 (Reserved).

55.4-39A Mandatory. Effective February 13, 1980, storage buildings or rooms in which flammable or combustible liquids or other flammable materials are stored and which are within 100 feet of where miners normally work shall be well ventilated and constructed of materials having a fire-resistant rating of no less than one (1) hour as tested under the appropriate National Fire Protection Association (NFPA) fire resistance test or under a test of another approved testing agency.

55.4-39B Mandatory. Emergency fire fighting plans in combination with evacuation and rescue plans shall be established and coordinated with available fire fighting organizations. Emergency fire fighting drills shall be held for each shift at least once every six (6) months.

55.4-39C through 55.4-39Z (Reserved).

55.4-40 Mandatory. Fire alarm systems shall be provided and maintained in operating condition or adequate fire alarm procedures shall be established to warm promptly all persons endangered by a fire.

55.4-41 Mandatory. Every building or structure where persons normally work shall be provided with exits sufficient to permit the prompt escape of persons in case of fire.

55.4-42 through 55.4-46 (Reserved).

55.4-47 Mandatory. Belt conveyors shall be equipped with a safety switch capable of automatically stopping the drive pulley in the event of excessive slippage of the belt, where ignition of the belt could create a hazard to personnel. When it is necessary to operate the conveyor while temporarily by-passing the safety switch or any automatic function of the switch, a person shall attend the belt at the drive pulley.

55.4-48 Mandatory. All employees shall be instructed at least once each calendar year on fire alarm signals and applicable procedures to be followed in case of fire or other emergency. Records of instruction shall be kept for two years.

Clarification and Explanation of Certain Standards

Standard 55.4-27 requires that whenever self-propelled mobile equipment is used, it shall be provided with a suitable fire extinguisher readily accessible to the equipment operator.

This standard does not require that fire extinguishers be placed inside "staff automobiles." "Staff automobiles" refers to passenger cars owned, operated or leased by the mine operator and used to transport persons to and from the mine using public or private highways and roadways and which remain in parking areas while at the mine. The standard also is not intended to apply to vans, suburbans, or similar vehicles used in the same manner as "staff automobiles." These vehicles need not be provided with fire extinguishers even though they may be used infrequently for travel at the mine site. However, company owned or operated vehicles that are often used at the mine site for mining purposes (e.g., to haul equipment, supplies, explosives, repair or replacement parts; or to transport persons from one location to another on the mine property) must have a suitable fire extinguisher accessible to the driver.

Standard 55.4-41 requires that every building or structure where persons normally work shall be provided with exits sufficient to permit the prompt escape of persons in case of fire. This standard applies to every building or structure where "persons normally work."

Excluded from the requirements of this standard are those areas where persons work infrequently, e.g., change rooms, surge tunnels, toilet facilities, cafeterias. "Exits" may be doorways, passageways, windows or other openings that lead out of the building or structure. While the standard uses the work "exits", a single exit may be acceptable where it permits the prompt escape of persons in case of fire.

When considering what constitutes sufficient exits, the following factors should be considered: (1) the size of the exit(s); (2) the height of the exit(s) from the ground; (3) the size of the building; (4) the number of persons who normally work in the area serviced by the exit(s); (5) the nature of the operations; (6) the presence of potential fire hazards; (7) the type of materials of which the building is constructed, e.g., wood, brick, block, stone, metal, concrete; (8) the presence of fire suppression devices or the availability of fire extinguishers.

Clarification (continued)--

Standard 55.4-47 requires that belt conveyors shall be equipped with a safety switch capable of automatically stopping the drive pulley in the event of excessive slippage of the belt, where ignition of the belt could create a hazard to personnel. The safety switches required by this standard are available currently on an over-the-counter basis from several manufacturers.

For surface operations, those areas that could create a hazard to personnel include the following:

1. Surge tunnels.

2. Conveyor belts located in areas where other combustible or flammable materials are stored within 25 feet. This is to prevent a conveyor belt fire from spreading and becoming a larger and more serious fire and is consistent with distances used as safeguards in the electrical and explosives standards.

3. Any restricted area where a conveyor belt fire could hinder the escape of personnel who normally work in that area.

August 1980

HOLMES SAFETY ASSOCIATION MONTHLY SAFETY TOPIC

First Aid--Burns

First Degree Burns

Signs/Symptoms--Reddened skin.

First Aid Treatment--Immerse quickly in cold water or apply ice until pain stops.

Second Degree Burns

Signs/Symptoms--Reddened skin, blisters.

First Aid Treatment--1. Cut away loose clothing. 2. Cover with several layers of cold moist dressings or if limb is involved immerse in cold water for relief of pain. 3. Treat for shock.

Third Degree Burns

Signs/Symptoms--Skin destroyed, tissues damaged, charring.

First Aid Treatment--1. Cut away loose clothing (do not remove clothing adhered to skin). 2. Cover with several layers of sterile, cold, moist dressings for relief of pain and to stop burning action. 3. Treat for shock.

Chemical Burns

First Aid Treatment--1. Flood affected area with water for at least 20 minutes until all chemical is removed. 2. Remove victim's clothing because chemical may be retained in clothing.

General Care For All Burns

1. If medical help is not available within an hour and the victim is conscious and not vomiting and requests something, give 1/2 glass solution of 1/2 teaspoon salt, 1/2 teaspoon baking soda to a quart of water, every 15 minutes.
2. Separate any burned areas that might come in contact with each other when bandaging (fingers, toes, ear and head).
3. Get medical attention as soon as possible.
4. Do not break blisters.
5. Do not use ointments.

(For use in all mining operations)

SAFETY IS EVERYBODY'S BUSINESS

ABSTRACT FROM FATAL ACCIDENT

August 1980

HOLMES SAFETY ASSOCIATION
MONTHLY SAFETY TOPIC

FATAL FALL-OF-GROUND ACCIDENT

General Information: A miner was fatally injured when he was struck and pinned by a slab of rock which fell out of the back in a development stope at Section 17 mine. He had been a miner for 2 years, and had approximately 2 years previous underground mining experience.

The Section 17 mine was an underground uranium mining operation. The mine was opened by a three compartment, 1100-foot-deep vertical shaft and several cased boreholes, one of which was equipped with a steel headframe and emergency hoisting equipment. The mining method was modified room-and-pillar with haulageways driven below the ore bodies.

Description of Accident: The victim started work at the normal starting time for the swing shift. He proceeded to his working place in the 0607 development stope on the 2-3 level and performed his normal duties until the lunch break.

The shift boss was in the stope after the lunch break to check on the victim's progress and to check on conditions in the stope. The victim was operating the slusher when the shift boss was in the stope and they decided that when the slushing was completed the victim would bolt the back in the intersection. Reportedly, there were only a couple more passes to make and the area would be slushed out enough to permit bolting.

After telling the victim to be careful, the shift boss left the stope and went to the top of 0910 manway where he met the grade control geologist, and informed him that the victim was slushing.

The shift boss then visited another stope and went to the lunchroom to complete some paper work. The geologist went into 0607 stope but did not see the victim although he thought he could see a faint light at the intersection. He was reluctant to go into the area for fear the miner would return and start slushing.

The geologist located the shift boss in the lunchroom and both men immediately returned to 0607 stope. The victim was discovered almost completely covered by a large slab which had fallen from the back.

(For use in underground mining operations)

SAFETY IS EVERYBODY'S BUSINESS

They removed the victim from under the slab and attempted to revive him with mouth-to-mouth resuscitation. When this proved unsuccessful, the shift boss went for help. The victim was removed from the stope by stretcher and transported by company ambulance to the clinic where he was officially pronounced dead.

Cause of Accident: The direct cause of the accident was the failure of the supervisor and the miner to properly evaluate the ground conditions in the stope and to follow adequate ground control procedures.

Recommendations: Ground support shall be used if the operating experience of the mine, or any particular area of the mine, indicates that it is required.

Miners shall examine and test the back, face, and ribs of their working places at the beginning of each shift and frequently thereafter.

Men should be trained in the proper methods of testing for, taking down, and supporting loose ground.

When needed, rock bolts should be installed as soon as possible after an area is exposed.

ABSTRACT FROM FATAL ACCIDENT

August 1980

HOLMES SAFETY ASSOCIATION
MONTHLY SAFETY TOPIC

FATAL POWERED HAULAGE ACCIDENT

General Information: A fatal powered haulage accident occurred on the main haulage road to the first right section of the mine resulting in the death of a battery-powered scoop operator. The victim had approximately 4 years mining experience, 1 year and 3 months as a scoop operator.

Description of Accident: The first right section crew, under the supervision of the section foreman, entered the mine. First right was a new section and the crews' assignment was to prepare the section for mining operations. Four workmen, including the victim, were assigned the task of plastering overcasts and cleaning the roadway in the belt entry. The victim assisted the other workmen in plastering the overcasts. Then he began cleaning the roadway with the battery powered scoop. He filled the scoop bucket with debris from the roadway and left the working area to dispose of the debris in old workings. Approximately one hour later, the continuous miner helper found the victim trapped between the deck of the scoop and an overcast. The continuous miner helper summoned assistance from the remaining crew members. After the victim was freed, signs of life were observed; however, he was pronounced dead on arrival at the hospital.

The overcast located on the roadway created an obstruction in vertical clearance, because it had been installed 10-½ inches below the normal roof height in this area.

Cause of Accident: The direct cause of the accident was management's failure to provide uniform vertical clearance by constructing an overcast that projected 10-½ inches below the normal roof height. A contributing factor was the operator's unsafe operation of the scoop, in that, he apparently permitted the scoop to travel in reverse without facing the direction of travel.

(For use in coal mining operations)

MSHA [1]
State [2]
Management [3]

Report of Holmes Safety Association Safety Chapters

Established April through June 1980

U = Underground
S = Surface
P = Plant

Chapter	Mine	Company	Product	U	S	P	Membership	Charter No.	City	County	State	Established By	Date	Council Affiliation
Kaskaskia Loading Dock	Kaskaskia Loading Dock	Peabody Coal Company	coal transfer		X	Dock	17	2822	New Athens	St. Clair	IL	[1] Roger Jewell [2] W. Franklin [3] H. Herges	4/1	Southern Illinois-Open Pit District
Avery Coal	Avery Coal	Avery Coal Co., Inc.	coal		X	X	12	2823	Wallaceton	Clearfield	PA	[1] G. Walaitis	4/23	Clearfield
Blue Rock	Blue Rock	Blue Rock Industries	crushed rock & sand & gravel		X	X	500	2824	Westbrook	Cumberland	ME	[1] Pat Hurley	5/8	Nonaffiliated
Gobbler's Knob	Gobbler's Knob	Mattiki Coal Corporation	coal	X			145	2825	Deer Park	Garrett	MD	[1] J. Miller B. Gibbs	5/20	Nonaffiliated
Beaver Run	Beaver Run	Mattiki Coal Corporation	coal	X			135	2826	Deer Park	Garrett	MD	[1] J. Miller B. Gibbs	5/20	Nonaffiliated
Big George	Big George	Mattiki Coal Corporation	coal	X			130	2827	Deer Park	Garrett	MD	[1] J. Miller B. Gibbs	5/20	Nonaffiliated
Mattiki General	Mattiki General	Mattiki Coal Corporation	coal		X	X	90	2828	Deer Park	Garrett	MD	[1] J. Miller B. Gibbs	5/20	Nonaffiliated
Guilford County Mine	Guilford County Mine	Boren Clay Products Company	clay		X		10	2829	Pleasant Garden	Guilford	NC	[1] J. Johnson [3] A. Harrell	5/14	Nonaffiliated
Boren Clay Products	Boren Clay Products	Boren Clay Products Company	clay		X		10	2830	Pleasant Garden	Guilford	NC	[1] J. Johnson [3] A. Harrell	5/14	Nonaffiliated

Management 3

Established April through June 1980--continued

S = Surface
P = Plant

Chapter	*Mine*	*Company*	*Product*	*U*	*S*	*P*	*Member-ship*	*Charter No.*	*City*	*County*	*State*	*Established By*	*Date*	*Council Affiliation*
Billy Merritt's Gravel Pit	Billy Merritt's Gravel Pit	Billy Merritt's Gravel Pit Inc.	gravel		X		10	2831	Chapel Hill	Orange	NC	^{1}J. Johnson ^{3}B. Merritt	5/14	Nonaffiliated
Grove Stone & Gravel	Grove Stone & Gravel	Grove Stone & Gravel of B. V. Hedrick Gravel Co.	stone & gravel		X	X	20	2832	Swanna-noa	Buncombe	NC	^{1}J. Johnson	5/13	Nonaffiliated
Cumber-land Gravel & Sand	Cumber-land Gravel & Sand	Cumberland Gravel & Sand of B. V. Hedrick Gravel Company	gravel & sand		X	X	20	2833	Swanna-noa	Buncombe	NC	^{1}J. Johnson ^{3}T. C. Newman	5/13	Nonaffiliated
Lesses	Lesses	Lesses of B. V. Hedrick Gravel Co.	gravel & sand			X	60	2834	Liles-ville	Anson	NC	^{1}J. Johnson ^{3}T.C. Weaver	5/13	Nonaffiliated
Feldspar Monticello	Feldspar Monti-cello	Feldspar Corp.	feld-spar	X		Mill	50	2835	Spruce Pine	Mitchell	NC	^{1}J. Johnson ^{3}J.D. Lawson	5/15	Nonaffiliated
Broad River	Broad River	Boren Clay Products Co.	clay	X			10	2836	Blacks-burg	Cherokee	SC	^{1}J. Johnson ^{3}A. Harrell	5/14	Nonaffiliated
Mayfield	May-field	K-T Clay Co.	clay	X		Mill	60	2837	Mayfield	Graves	KY	^{1}J. Johnson R. Hallmark ^{3}P. Pace	5/15	Nonaffiliated
Asheville Mica	Ashe-ville Mica	Asheville Mica Co.	mica			Mill	10	2838	Ashe-ville	Buncombe	NC	^{1}J. Johnson ^{3}C. Brown	5/13	Nonaffiliated

MSHA [1]
State [2]
Management [3]

Report of Holmes Safety Association Safety Chapters

Established April through June 1980--continued

U = Underground
S = Surface
P = Plant

Chapter	Mine	Company	Product	U	S	P	Membership	Charter No.	City	County	State	Established By	Date	Council Affiliation
Kendrick	Kendrick	Boren Clay Products Co.	clay		X		10	2839	Monroe	Union	NC	[1] J. Johnson [3] A. Harrell	5/14	Nonaffiliated
Sampson Mine & Mill	Sampson Mine & Mill	Boren Clay Products Co.	clay		X	X	10	2840	Roseboro	Samson	NC	[1] J. Johnson [3] A. Harrell	5/14	Nonaffiliated
Texas Gulf	Lee Creek	Texasgulf Inc.	phosphate rock		X	X	500	2841	Aurora	Beaufort	NC	[1] J. Johnson [3] D. Pergrem B. Saulter	5/21	Nonaffiliated
Aggregate Products	Allen Creek	Aggregate Products Inc.	aggregate rock		X	X	20	2842	Waynesville	Haywood	NC	[1] J. Johnson [3] W. Wiggins	5/16	Nonaffiliated
Fletcher Brick	Fletcher Mine	The Fletcher Brick Co.	clay		X	Mill	80	2843	Hendersonville	Henderson	NC	[1] J. Johnson R. Hallmark [3] F. Todd	5/15	Nonaffiliated
Franklin Mineral Products	Franklin Mineral Products	Franklin Mineral Products Co.	mica		X	Mill	45	2844	Franklin	Macon	NC	[1] J. Johnson R. Hallmark [3] R. Parsons	5/15	Nonaffiliated
Gulf Mine	Gulf Mine	Boren Clay Products Co.	clay		X		10	2845	Gulf	Chatham	NC	[1] J. Johnson [3] A. Harrell	5/14	Nonaffiliated
Carolina Stalite Mill	Carolina Stalite	Carolina Stalite	light weight aggregate rock			X Mill	40	2846	Gold Hill	Rowan	NC	[1] J. Johnson [3] A. Perry	5/14	Nonaffiliated

MSHA ^{1}
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Report of Holmes Safety Association Safety Chapters

Established April through June 1980--continued

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A.P. Causby Sand and Stone	Causby Sand Plant & Causby Quarry	A.P. Causby Sand & Stone Company	sand & stone		X	X	30	2847	Morganton	Burke	NC	^{1}J. Johnson ^{3}H. Avery	5/16	Nonaffiliated
Aberdeen Sand & Gravel	Blue "Y" Siding	Aberdeen Sand & Gravel Co.	sand & gravel		X		20	2848	Aberdeen	Moore	NC	^{1}J. Johnson ^{3} M. Price	5/16	Nonaffiliated
Ararat Rock Products	Surry Quarry	Ararat Rock Products Co.	crushed stone		X		40	2849	Mt. Airy	Surry	NC	^{1}J. Johnson ^{3}J.H.Crossingham	5/16	Nonaffiliated
Brown Bros. Construction	Brown Bros. Construction	Brown Bros. Construction Company	crushed stone & asphalt			X Mill	20	2850	Zionville	Watauga	NC	^{1}J. Johnson ^{3}Paul Brown	5/14	Nonaffiliated
Denneen Mica	Yancy Mine & Mill	Denneen Mica Company	mica		X	Mill	50	2851	Micaville	Yancey	NC	^{1}J. Johnson ^{3}W. B. Wilkins	5/15	Nonaffiliated
Hancock Sand	Hancock	Hancock Sand Co.	sand		X		10	2852	Sanford	Lee	NC	^{1}J. Johnson ^{3}F.B. Hancock	5/15	Nonaffiliated
Warner	Nacy Jordan #5	Warner Corporation	talc	X		Mill	40	2853	Wilmington	New Hanover	NC	^{1}J. Johnson ^{3}B.E. Warner	5/15	Nonaffiliated
Clark Stone	Clark Stone	The Hitchcock Corp.	crushed stone		X	X	20	2854	Zionville	Watauga	NC	^{1}J. Johnson ^{3}P. Brown	5/14	Nonaffiliated
Leaksville	Leaksville	Virginia Solite Co.	solite		X	X	50	2855	Eden	Rock Mt.	NC	^{1}J. Johnson ^{3}C.H. Gover	5/21	Nonaffiliated

MSHA [1]
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Report of Holmes Safety Association Safety Chapters

Established April through June 1980--continued

U = Underground
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Chapter	Mine	Company	Product	U	S	P	Membership	Charter No.	City	County	State	Established By	Date	Council Affiliation
Matthews International Granite Division	Matthews International Granite Division	Matthews International Corp.	granite		X	X	50	2856	Salisbury	Rowan	NC	[1]J. Johnson [3]G. Holshouser	5/20	Nonaffiliated
Hays	Franklin Pit	Hays Corp.	sand & gravel			X	10	2857	Franklin	Jackson	NC	[1]J. Johnson [3]F. Hays	5/20	Nonaffiliated
B. E. Singleton	B. E. Singleton	B. E. Singleton & Sons Inc.	sand & gravel		X		20	2853	Washington	Beaufort	NC	[1]J. Johnson [3]B.E. Singleton	5/16	Nonaffiliated
Asphalt Paving of Shelby	Cleveland County	Asphalt Paving of Shelby Inc.	sand & gravel		X	X	25	2859	Shelby	Cleveland	NC	[1]J. Johnson [3]D. Dedmon	5/16	Nonaffiliated
J. T. Russell	J. T. Russell	J. T. Russell & Son	clay & sand		X	X	50	2860	Albemarle	Stanly	NC	[1]J. Johnson [3]R. Russell	5/15	Nonaffiliated
Gleason	K-T Clay	K-T Clay Company	clay		X	Mill	60	2861	Gleason	Weakley	TN	[1]J. Johnson R. Hallmark [3]P. Pace	5/15	Nonaffiliated
Whitlock	Whitlock	K-T Clay Co	clay		X	Mill	50	2862	Mayfield	Graves	KY	[1]J. Johnson R. Hallmark [3]P. Pace	5/15	Nonaffiliated
Standard Mineral	Robbins Mill & Quarry	Standard Mineral Co Inc.	construction		X	X Mill	30	2863	Robbins	Moore	NC	[1]J. Johnson [3]W.G.Robbins D. Putman	5/22	Nonaffiliated

State [2]
Management [3]

Report of Holmes Safety Association Safety Chapters

Established April through June 1980--continued

U = Underground
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Chapter	Mine	Company	Product	U	S	P	Membership	Charter No.	City	County	State	Established By	Date	Council Affiliation
Lilesville	Lilesville	W.R. Bonsal Company	sand & gravel		X	Mill	80	2864	Lilesville	Anson	NC	[1]J. Johnson [3]J. Thompson	5/21	Nonaffiliated
T.S.M. Facility Central Shop	T.S.M. Facility Central Shop	Peabody Coal Company	coal mine equip. maint.		X		19	2865	Marissa	St.Clair	IL	[1]R. Jewell [2]W. Franklin [3]W. Wyatt	6/2	Nonaffiliated
Belfry	Belfry	Cowin & Co.	coal construction	X			54	2866	Paintsville	Johnson	KY	[1]J. Johnson [3]R. Finley	6/9	Nonaffiliated
AGC of NH	AGC of NH	Associated General Contractors of NH, Inc.	aggregates sand, gravel, & clay	X	X	X	54	2867	Concord	Merrimack	NH	[1]P. Hurley [2]W. Gillis [3]C. Piper	6/1	Nonaffiliated
Hopper Bros.	Hopper Bros. Quarries	Hopper Bros. Quarries	limestone	X	X		70	2868	Weeping Water	Cass	NE	[1]E. Lilly M. Solano [3]C. Spohr	6/12	Nonaffiliated
Blackwell Sand	Blackwell Sand	Blackwell Sand Co.	sand		X		5	2869	Meridian	Lauderdale	MS	[1]J. Johnson [3]H. Cooper	6/3	Nonaffiliated
Green Bros. Gravel	Plant #2	Green Bros. Gravel	gravel		X	X	50	2870	Crystal Springs	Copiah	MS	[1]J. Johnson [3]A., Donahoe	6/4	Nonaffiliated
Aberdeen Mine	Aberdeen Mine	Filtrol Corp.	clay		X	Mill	20	2871	Aberdeen	Monroe	MS	[1]J. Johnson [3]J.H.Morgan	6/4	Nonaffiliated
Diamond and Radar	Diamond & Radar	Diamond & Radar Inc.	sand & gravel		X		10	2872	Perkinston	Stone	MS	[1]J. Johnson [3]F. Radar	6/4	Nonaffiliated

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Established April through June 1980--continued

Chapter	Mine	Company	Product	U	S	P	Membership	Charter No.	City	County	State	Established By	Date	Council Affiliation
Ancient Rivers Mining	Ancient Rivers Mining	Ancient Rivers Mining Co.	sand		X	X	10	2873	Hattiesburg	Pearl River	MS	^{1}J. Johnson ^{3}R. Simms	6/3	Nonaffiliated
American Sand & Gravel	American Sand & Gravel	American Sand & Gravel Co.	sand & gravel		X	X	50	2874	Hattiesburg	Forrest	MS	^{1}J. Johnson	6/2	Nonaffiliated
Bolivar County	Bolivar County	Gravel Co of Bolivar County	sand & gravel		X		10	2875	Cleveland	Bolivar	MS	^{1}J. Johnson ^{3}W.B. Crain	6/2	Nonaffiliated
North Energy	Meg #1	North Energy Corp.	coal		X		60	2876	Berry	Tuscaloosa	AL	^{1}J. Johnson ^{3}N. Banks	6/20	Nonaffiliated
Blaine Sand & Gravel	Blaine Sand & Gravel	Blaine Sand & Gravel Inc.	sand & gravel		X	X	40	2877	Mt.Olive	Copiah	MS	^{1}J. Johnson ^{3}G. Winborne	6/3	Nonaffiliated
Bacco Materials	Pits 101 & 109	Bacco Materials Inc.	sand, gravel, & clay		X	X	30	2878	West Point	Clay	MS	^{1} J. Johnson ^{3}G. Winborne	6/3	Nonaffiliated
Brookhaven & Laurel	Brookhaven & Laurel	Laurel Brick & Tile Co.	clay		X	X	120	2879	Laurel	Jones	MS	^{1}J. Johnson ^{3}J. Ulmer	6/3	Nonaffiliated
Sifto Salt Division	Cote Blanche Mine	Domtar, Inc. Sifto Salt Division	salt	X			115	2880	New Iberia	St. Mary	LA	^{1}J. Johnson ^{3}L. Romero	6/18	Nonaffiliated
West Lake	West Lake Mill	Dresser Industries Inc.	barite		Mill		35	2881	West Lake	Calcasieu	LA	^{1}J. Johnson ^{3}R. Peloquin	6/18	Nonaffiliated

Report of Holmes Safety Association Safety Chapters

Established April through June 1980--continued

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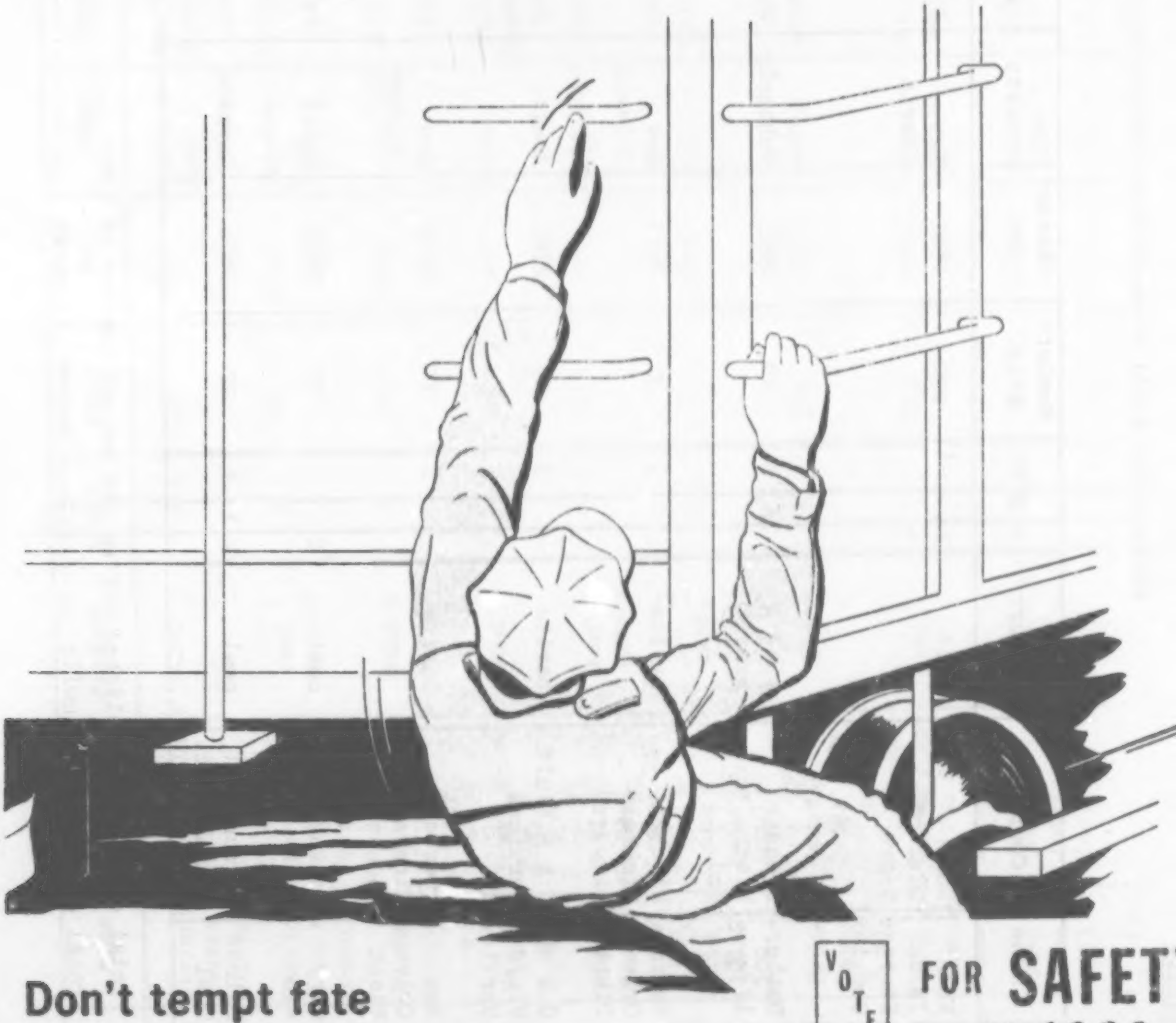
Duci Weeks Island Storage Complex	Week Island Storage Complex	Duci Div. of Trova	salt	X			200	2882	New Iberia	Iberia	LA	[1]J. Johnson [3]G. Cook	6/18	Nonaffiliated
Dresser Minerals	Dubberly	Dresser Minerals Ind.	sand & gravel		X	X	40	2883	Dubberly	Webster	LA	[1]J. Johnson [3]B.J. Newnam	6/18	Nonaffiliated
Milchem Minerals Div.	New Orleans Plant	Milchem Minerals Div.	barite			X	35	2884	New Orleans	Orleans	LA	[1]J. Johnson [3]R. Thurman	6/17	Nonaffiliated
G and H Fluid Services	G & H Fluid Services	G & H Fluid Services	barite			X	40	2885	Amelia	Assumption	LA	[1]J. Johnson	6/17	Nonaffiliated
New Orleans Plant	New Orleans Plant	Dresser Minerals Industries	barite			X	70	2886	New Orleans	Orleans	LA	[1]J. Johnson [3]J. Taylor	6/17	Nonaffiliated
Gary #10	Gary #10	Cowin & Co.	coal	X			30	2887	Welch	McDowell	WV	[3]J. Dowling E. Stumper	6/21	Nonaffiliated
Falcon Coal	Falcon Coal	Falcon Coal Company Inc.	coal	X	X	X	20	2888	Jackson	Breathitt	KY	[1]D. Moore [3]H. Davidson	6/27	Nonaffiliated

Total chapters established during the second quarter of 1980 .... 67 - Membership - 3,846
Total chapters nationwide .... 1,523 - Membership - 214,507

HOLMES SAFETY ASSOCIATION

SAFETY BELTS and PIG TAILS could have Saved His Life. Don't gamble.



Don't tempt fate

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IN 1980

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HOLMES SAFETY ASSOCIATION

SAFETY EFFICIENCY
MINERAL INDUSTRIES

BULLETIN

United States Department of Labor
MSHA
Mine Safety and Health Administration

L38.12:

pages tightly bound

best copy available

September 1980

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4. Safety Topic, "Hand Injuries"
5. Safety Topic, "Man and Material Hoists"
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7. Abstract, "Fatal Fall-of-Ground Accident"
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11. Poster, "Safety Belt and Line"
12. Meeting Report Form (chapters only)

THE HOLMES SAFETY ASSOCIATION CREED

Our work	SAFETY EDUCATION - Goes on,
Our purpose	ACCIDENT PREVENTION - Endures,
Our hope	TOTAL SAFETY AWARENESS - Still lives, and
Our dream	AN ACCIDENT FREE ENVIRONMENT - Will never die,
SAFETY	Is and Always will be OUR FIRST CONSIDERATION!

Fatalgram

U.S. Department of Labor
Mine Safety and Health Administration
Metal and Nonmetal Mine Safety and Health Activity

date July 21, 1980

SPECIAL FATALGRAM

POWERED HAULAGE: VEHICLE-OVER-EDGE ACCIDENTS

SINCE THE BEGINNING OF 1979 THERE HAVE BEEN 15 HAULAGE FATALITIES INVOLVING TRUCKS WHICH BACKED OVER THE EDGES OF DUMPS AND VEHICLES WHICH RAN OFF EDGES OF ELEVATED ROADWAYS. SHORT SUMMARIES OF THE CIRCUMSTANCES OF EACH OF THESE ACCIDENTS FOLLOW:

1. 6/12/79 VICTIM WAS BACKING HIS OWN PICKUP TRUCK UP A DISUSED RAMP WHICH WAS BARRICADED AT THE LOWER END. NEAR THE UPPER END HE STEERED BADLY AND WENT OVER THE EDGE TO A 47-FOOT FALL.
2. 6/21/79 TRUCK BACKING TO DUMP OVER A BANK INTO DREDGE POND. LARGE SECTIONS OF BANK COLLAPSED, CARRYING TRUCK AND DRIVER INTO 35-FOOT-DEEP POND.
3. 8/8/79 IN RAIN, OPERATOR LOST CONTROL OF GRADER-LOADER ON A TURN AND SKIDDED OVER AN EMBANKMENT.
4. 9/1/79 HAULAGE TRUCK VEERED TO ONE SIDE, RAN THROUGH A BERM AT SIDE OF ROAD AND ROLLED OVER AND OVER DOWN MOUNTAIN SIDE. ROAD STRAIGHT, AND NO OBVIOUS REASON FOR THE OCCURRENCE.
5. 10/2/79 22-YEAR-OLD DRIVER BACKED TRUCK OVER 34-FOOT-HIGH LEDGE WHILE PREPARING TO DUMP HE HAD 2 1/2 YEARS OF EXPERIENCE AS A TRUCK DRIVER, BUT BACKING TO DUMP OVER THE EDGE OF A WALL OR DUMP WAS A NEW PROBLEM FOR HIM.
6. 10/5/79 FRONT-END LOADER OPERATOR, STRIPPING OVERBURDEN ABOVE QUARRY, DROVE TOO NEAR EDGE OF QUARRY FACE. PIT WALL COLLAPSED UNDER LOADER.
7. 10/27/79 HAULAGE TRUCK LEFT ROADWAY AND OVERTURNED INTO SETTLING POND. ROADWAY WAS OVER A NARROW DIKE; THERE WAS SOME FOG; AND THE TRUCK LACKED WINDSHIELD WIPERS.
8. 10/29/79 TRUCK DRIVER BACKED TOO NEAR TO EDGE OF WASTE DUMP, WHICH COLLAPSED UNDER HIM.
9. 12/18/79 BACKED DOWN A GRADE TO POSITION TRUCK FOR DUMPING OVER A CLIFF. INSTRUCTIONS HAD BEEN TO DESCEND FRONTWARDS AS BRAKES WERE DESIGNED PRIMARILY FOR FRONTWARDS OPERATION. BACKING, DRIVER LOST CONTROL AND WENT OVER EDGE.
10. 1/11/80 DRIVER BACKED OVER EDGE OF DUMP AFTER FAILING TO SEE SPOTTER'S SIGNAL TO STOP.
11. 1/16/80 LABORER, IN OWN PICKUP TRUCK ON HIS WAY TO WORK, LEFT MINE ACCESS ROAD AND ROLLED DOWN STEEP EMBANKMENT. HE HAD BEEN OBSERVED BY A FOLLOWING DRIVER TRAVELLING VERY NEAR THE EDGE OF THE ROAD.
12. 1/17/80 DROVE TRUCK OFF EDGE OF STOCKPILE THROUGH INATTENTION, WHILE DRIVING SLOWLY TO CHECK AN ENGINE NOISE.
13. 5/21/80 LOADER, DESCENDING RAMP IN QUARRY, VEERED OFF EDGE. THIS LOADER HAD SEVERAL KNOWN BUT UNCORRECTED DEFECTS IN BRAKES AND STEERING MECHANISMS.
14. 1/27/80 BACKED TRUCK OVER EDGE OF BANK WHILE TRYING TO POSITION IT TO DUMP MATERIAL FOR A BERM.
15. 1/30/80 BACKED TRUCK ONTO UNSTABLE GROUND WHILE PREPARING TO DUMP IN AN UNAUTHORIZED LOCATION. BANK SLOUGHED DOWN, CARRYING TRUCK AND DRIVER INTO 35-FOOT-DEEP POND.

80-032

DEATH TOLL **Period covered:** January through May

Year	Underground	Surface	Mills	Total
1979	7	18	13	38
1980	6	20	10	36

DO YOUR PART TO KEEP THE TOLL DOWN!
SAFETY IS EVERYBODY'S BUSINESS

☆U.S. Government Printing Office: 1980—677-158/5

September 1980

HOLMES SAFETY ASSOCIATION MONTHLY SAFETY TOPIC

Excerpts from Code of Federal Regulations

Mandatory Safety Standards--Underground Coal Mines

Part 75.321--Stoppage of Fans, Plans

Each operator shall adopt a plan which shall provide that when any mine fan stops, immediate action shall be taken by the operator or his agent (a) to withdraw all persons from the working the working sections, (b) to cut off the power in the mine in a timely manner, (c) to provide for restoration of power and resumption of work if ventilation is restored within a reasonable period as set forth in the plan after the working places and other active workings where methane is likely to accumulate are reexamined by a certified person to determine if methane in amounts of 1.0 volume per centum or more exists therein, and (d) to provide for withdrawal of all persons from the mine if ventilation cannot be restored within such reasonable time. The plan and revisions thereof approved by the Secretary shall be set out in printed form and a copy shall be furnished to the Secretary or his authorized representive.

Part 75.321-1--Reasonable period

Unless a different period of time is approved by the Coal Mine Safety District Manager, "reasonable period" referred to in section 75.321 means a time lapse of not more than 15 minutes.

(For use in all underground coal mines)

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September 1980

HOLMES SAFETY ASSOCIATION MONTHLY SAFETY TOPIC

Gumming Up the Works!

When chewing gum, keep in mind that careless working habits can gum up the works in many ways. We don't need to tell you that carelessness is an invitation to accidents. We just want to remind you that an accident not only gums things up for you, it gums things up for your family as well -- from moments of worry to heartbreak, hardship, and more, depending on how seriously you are hurt.

Carelessness on your part gums things up for your fellow employees, too. Often they are endangered and always they are upset when there is an accident. A worried, upset person has a difficult time keeping their mind on their job.

Here are a couple of suggestions for you to "chew over":

1. Keep your wits about you!
2. Live up to the letter of the safety rules that have been set up for your protection and for the protection of your fellow workers -- not only during the summer, but throughout the whole year.

WORK SAFELY -- DON'T BE THE ONE WHO GUMS THE WORKS

(For use in all mining operations)

September 1980

HOLMES SAFETY ASSOCIATION MONTHLY SAFETY TOPIC

HAND INJURIES

Did you ever try to button your shirt or tie your neck tie with a sore finger? It is difficult to do. Suppose you had a thumb or finger missing. You may have to have someone to do these things for you. What I am saying is that we should protect our hands. It is true that practically all of our work is done with our hands and, therefore, are exposed more than any other part of our body. If we know that our hands are more liable to injuries and are the most important part of our body, shouldn't we take every possible precaution to protect them?

There are many ways you can protect your hands from injuries. Suppose we consider the following reminders:

1. Always coordinate work movement with co-workers.
2. Keep tools in good condition.
3. Do not improvise tools.
4. Wear gloves for hand protection only where they would not be a hazard.
5. Keep shirt and jacket sleeves buttoned, and do not allow them to become frayed or ragged.
6. Use holders for chisels and punches where provided.
7. Do not place hand tools near moving machinery.
8. Be sure electrical testers are well insulated.

There are other causes of hand injuries, but by analyzing your job and preparing yourselves by becoming aware of the hazards, you can do the job safely.

(For use in all mining operations)

SAFETY IS EVERYBODY'S BUSINESS

September 1980

HOLMES SAFETY ASSOCIATION MONTHLY SAFETY TOPIC

Man and Material Hoists

With the increased number of longwall mining units being installed and the manufacture of larger, heavier mining equipment that must be transported into and out of a mine via hoisting installations, it is necessary to examine the capabilities of existing hoisting facilities.

The following should be determined:

> The capability of the braking system in relation to the loads being transported;
>
> The breaking strength of the wire rope, including the recommended factor of safety in relation to the maximum load;
>
> The quality of inspection of the hoisting installation, especially the wire rope for broken wires, reduction in diameter, and the wire rope terminations.

These factors need to be determined as a result of numerous recent problems that have occurred to hoisting installations because heavier equipment is being hoisted and the required inspections appear to be only cursory.

(For use in underground coal mines)

SAFETY IS EVERYBODY'S BUSINESS

September 1980

HOLMES SAFETY ASSOCIATION MONTHLY SAFETY TOPIC

DON'T LET LIGHTNING 'LIGHT UP' YOUR BLAST

Electrical storms are phenomenons of nature that we are not able to control. The lightning strokes associated with these storms are, in effect, static discharges of gigantic proportions. The extremely large amounts of electrical energy released by and the powerful electric and magnetic fields associated with lightning represent a hazard to any material that is inflammable or detonable.

There is a warning in every case of explosives to keep away from all explosive products during the approach and progress of an electrical storm. This, of course, is irrespective of the type of explosives or initiating device in use.

One should not be lulled into any false sense of security should non-electric systems be in use. Direct lightning strikes may be apt to initiate these types of systems. This is so stated in the literature.

Because of this, all explosives loading operations should be discontinued and all personnel in and around the blast area should retreat to a position of safety until the storm has passed over.

Lightning storms tend to occur most often during summer months and in certain geographical areas called "Thunderstorm Belts." All operations, and especially those that are prone to electrical storms, should have established rules for evacuating blast areas when necessary. The following recommendations, which include precautions for minimizing the hazard to EB caps, could form the basis for an established procedure:

1. Obtain advance warning of the approach or buildup at a blast area of an electrical storm so that there is adequate time to evacuate the site. Such warning may also preclude unnecessary shutdowns if a storm is only passing by at a safe distance. There are three methods for doing this. The best method is to use a thunderstorm warning device that monitors two characteristics of electrical storms - sferics activity for long distance warning and atmospheric potential gradient for close in warning. If either or both these criteria exceed prescibed levels, it can be concluded that a storm is imminent and appropriate action can be taken. Thunderstorm warning devices are commercially available. Second, and less reliable, is to utilize the services of a nearby weather station who can warn you when weather conditions are such that

SAFETY IS EVERYBODY'S BUSINESS

(For use in all mining operations)

electrical storms might occur. Many times they use radar to track electrical storms, and, thus can detect their approach to a blast area. The third, and least reliable method, is to assign some individual the responsibility to monitor the atmosphere for visual indications of the buildup or approach of a storm. Although this method is better than none at all, it cannot be relied on to give adequate warning for several reasons.

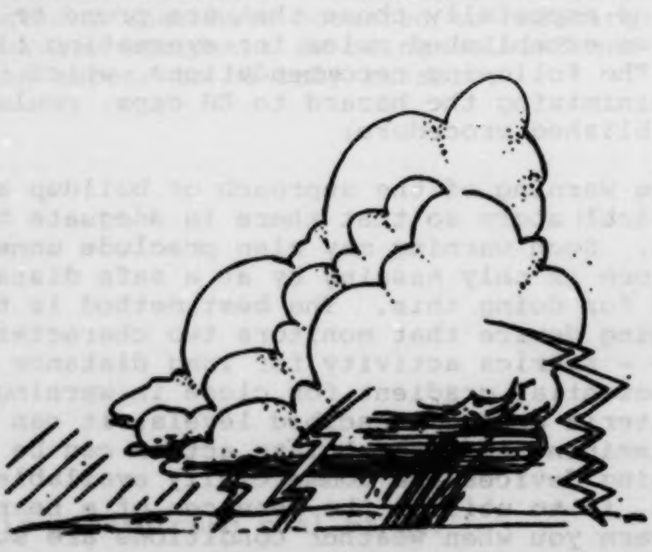
2. Once it has been ascertained that a storm is imminent, evacuate all personnel away from the blast area to a position of safety.

3. When leaving the blast site, leave individually shunted EB caps, whether or not they are in a loaded borehole, undisturbed and open all shunts and closed wire loops in the blasting circuit being careful to keep all bare wire insulated from earth.

4. After the storm has passed over, replace all shunts immediately on return to the blast area.

5. Lightning gaps should be installed in all permanent firing line systems. The gap should consist of a 15-foot physical separation of two sections of the duplex firing line.

Information that has been collected on lightning-caused premature detonations indicates that in most instances, the extraneous electricity was introduced into the blasting circuit by inductive coupling. Inductive coupling is the process by which electrical energy is transferred from the primary to the secondary windings in a transformer. Opening all closed wire loops in the blasting circuit prevents inductive coupling to the blasting circuit.



ABSTRACT FROM FATAL ACCIDENT

September 1980

HOLMES SAFETY ASSOCIATION
MONTHLY SAFETY TOPIC

FATAL FALL-OF-GROUND ACCIDENT

General Information: A miner was fatally injured when he was struck and pinned by several slabs of rock which fell out of the back in a development stope drift. The miner was employed at this mine for 2-1/2 years. He had no known previous mining experience.

The mine was an underground uranium mining operation which was operated three 8-hour shifts, 5 days a week. The mine was opened by a 12.5-foot diameter, three-compartment steel and concrete vertical shaft 840 feet in depth. The mine was connected from the 1-4 level to the adjacent mine and there were six cased boreholes to the surface. Mining of the ore-bearing sandstone was by a modified room and pillar method. Haulageways were driven below the ore bodies.

Description of Accident: On the day of the accident, the victim proceeded to his working place in the 0504 development stope on the 1-4 level. The breakthrough round had been blasted a week before and at that time it was determined by supervision that the stope was in good condition and that roof support was not necessary. The stope was posted against entry at this time.

On the previous day, the stope was visited by the mine foreman and the shift boss. Both supervisors agreed that ground conditions in the stope were bad and the ground must be supported. Instructions at this time were to clean out the muck and install roof bolts and wire mesh. The shift boss briefed the victim on the activities of the previous shift and instructed him to continue supporting the roof and ribs of 0504 stope with roof bolts and wire mesh.

Apparently, the victim installed the roof jacks about 6 feet past the roof bolts and wire mesh near the intersection. He then proceeded to drill five rows of roof-bolt holes. Sixteen holes had been drilled to a depth of 6 feet without incident. The final hole was drilled 12 feet past the permanent support and was about 14-inches deep when the roof fall occurred.

When a coworker came into the stope, he found the drill running, but did not see the victim. Knowing something was wrong, he left the area and met the shift boss who was on his way to the stope. They returned and found the victim almost completely covered by roof fall. They determined that some of the slabs were too large

(For use in underground metal and nonmetal mining operations) for the two men to remove and the shift boss went for help. The victim was removed from under the slabs and efforts were made to revive him. He was transported to the hospital where he was pronounced dead.

Cause of Accident: The direct cause of the accident was the victim working under a section of the back where no permanent ground support was provided. Contributing causes were: failure of supervision and the miner to properly evaluate the ground conditions and follow adequate ground control procedures; failure of supervision to frequently check an area of known "bad ground"; and failure of supervision to observe the work habits of personnel working in such areas.

Recommendations: Miners should be trained in the proper methods of testing for, taking down, and supporting loose ground.

When needed, rock bolts should be installed as soon as possible after an area is exposed.

ABSTRACT FROM FATAL ACCIDENT

September 1980

HOLMES SAFETY ASSOCIATION
MONTHLY SAFETY TOPIC

FATAL FALL-OF-MATERIAL ACCIDENT

General Information: A fall-of-material accident occurred in a strip mine pit resulting in the death of a groundman. The victim had about 40 years experience, the last 12-1/2 years as a groundman. He had positioned his bulldozer between the stripping shovel and the highwall. A rock fell from the highwall and struck the victim resulting in his death.

Description of Accident: Normal coal preparation activities of removing overburden from the coalbed had been delayed because loose material had fallen onto the coalbed from the highwall and the highwall had to be scaled. The stripping shovel was utilized for the scaling operation and a bulldozer was used to push the scaled material away from the highwall to an area where the stripping shovel could reach the material.

The bulldozer, operated by the victim, was operating between the stripping shovel and the highwall. When the shovel operator was ready to dump a bucket of material on the spoil bank he notified the groundman, who in turn notified the dozer operator (victim) to observe whether the rear rotating housing of the stripping shovel would clear the highwall. The bulldozer was normally positioned in back of the right rear crawler of the stripping shovel when the victim was observing whether there was adequate clearance. The groundman was observing the operation from a platform on a stripping shovel where a telephone was located to provide communication between persons near ground level and the operator of the shovel. The victim would signal the groundman if clearance space was adequate and in turn the groundman would relay that information to the stripping shovel operator. This work continued for about 6 moves, a linear distance of about 26 to 32 feet, without incident.

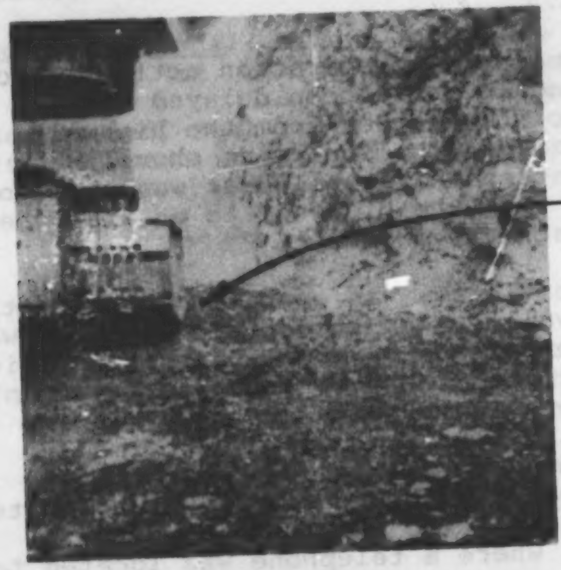
While the victim was observing whether or not there was clearance between the rear portion of the revolving housing of the stripping shovel and the highwall; the bulldozer was parked near the front of the rear crawler of the stripping shovel between the shovel and the highwall. The groundman observed the victim lean forward and a moment later saw the left cab door window shatter. The groundman immediately notified the stripping-shovel operator of the occurrence and proceeded to the bulldozer to see if the victim was injured. When he arrived at the bulldozer he found the victim slumped over in the right front corner of the cab. He immediately called for

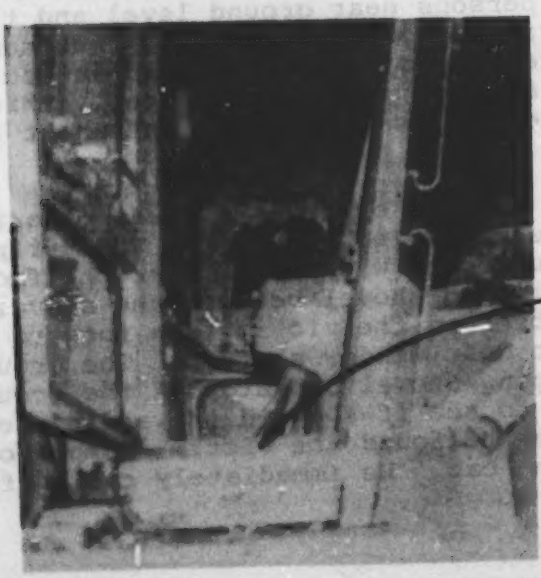
(For use in surface coal mines)

assistance to move the victim to a safe location. He was transported to the hospital where he was pronounced dead.

Cause of Accident: The accident and resultant fatality occurred because loose hazardous material was not removed from the highwall and the loose, unconsolidated material was not sloped to the angle of repose, or barriers, baffle boards, screens or other devices were not provided to afford protection. The following factors contributed to the seriousness of the accident:

1. The bulldozer was not parked in a safe location.
2. The victim opened the cab door facing the highwall.





View of the cab through which the rock traveled

September 1980

HOLMES SAFETY ASSOCIATION MONTHLY SAFETY TOPIC

FIRST AID BLEEDING

In case of an accident, after you have made certain that the victim you are aiding does not have a breathing problem, your next concern is to control any bleeding that may be present. If a person is bleeding severely and the bleeding is not stopped, death may occur. This can happen more quickly than most people realize.

Oxygen enters the blood system in the lungs. The oxygen is carried by the blood stream to the heart where it is pumped out into an extremely large artery. This artery then branches out into smaller arteries carrying the blood to all parts of the body. These smaller arteries continue to branch out until they become very small.

At this point the small arteries connect with capillaries, the smallest of all blood vessels. It is within the capillaries that the oxygen is passed from the blood to each cell in the body.

The capillaries pick up waste materials (such as the gas--carbon dioxide) from the cells and carry them in the blood to the veins. The veins at this point are very small. Each of these veins then merge with other small veins making larger veins, and eventually all meet into one large vein going back into the heart.

From the heart, the blood is carried to the lungs again, where the waste materials are deposited so they can be breathed out when you exhale. At this point, the cycle repeats itself again and again and again, continuously, 24 hours a day, 7 days a week.

Bleeding will occur any time there is a break in a blood vessel. There are certain signs that let you know which type of blood vessel (artery, vein, or capillary) the blood is coming from.

ARTERY BLEEDING--Bleeding from an artery will usually spurt and gush. This is because the arteries are the closest to the pumping action of the heart. The color of blood which is coming from an artery will usually be bright red because the oxygen gives it that color. Therefore, bright red blood gushing or spurting out is coming from an artery.

VEIN BLEEDING--Bleeding from a vein will usually flow smoothly in a steady stream because the pressure from the heart's pumping action has slowed down somewhat by the time it reaches the veins. The color of blood which is coming from a vein will usually be dark bluish-red, because it lacks oxygen. Therefore, if you see dark bluish-red blood flowing smoothly in a steady stream from a cut, you should assume it is coming from a vein.

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(For use in all mining operations)

CAPILLARY BLEEDING--Bleeding from a capillary will just barely ooze out because the capillaries are so small. Usually bleeding from a capillary is not serious.

HOW MUCH IS FATAL? Bleeding from either an artery or a vein can be serious or even fatal. You have approximately 12 pints of blood in your circulatory system. If you loose 1-½ to 2 pints, it is considered serious. If you loose 3 pints you can die.

EXTERNAL BLEEDING--Minor external bleeding will usually stop by itself. This is done by the body's normal defense mechanism against bleeding. When the blood vessels and skin are damaged, and the damage only covers a small area, the body's defense mechanism sends a message to the involved blood vessels to close up. This, in conjunction with another body defense mechanism which causes blood to clot and stop flowing, usually stops the bleeding by itself. This will only occur, however, if the damage is minor and the bleeding is *not* severe.

There are three methods used to control severe external bleeding. The methods should be used in order. Always use method one first. If this doesn't work, go on an try method two. *Only* as a last effort to save life or limb should method three be used since it is extremely dangerous and can cause many problems.

The first method, and usually the *most effective* method, of controlling external bleeding is direct pressure.

Direct pressure means applying pressure over a wound. This is usually done by applying a sterile (clean) dressing or bandage directly over the bleeding site and applying pressure over it. If you don't have a sterile dressing, any clean object, such as a handkerchief, a cloth, or even a bare hand or fingers must be used. Maintain the pressure until the bleeding stops or until the patient can be treated by professional medical personnel. If blood soaks through the dressing without clotting, do not remove it, but add additional layers and continue direct pressure more firmly. It is also helpful to elevate the portion of the body which is bleeding, if possible.

The second method is called pressure-point control or digital pressure. It should be used only if direct pressure does not stop the bleeding.

The pressure-point control method will temporarily block the main artery which is supplying blood to the affected limb (an arm or leg), and thus stop the bleeding. This method can only be used if the severe bleeding is coming from a limb.

Pressure-point control is accomplished by applying pressure to the main artery supplying affected limb. If the bleeding is coming from either arm, firm pressure must be applied to the brachial artery on that arm. If the bleeding is coming from either leg, firm pressure must be applied to the femoral artery on that leg.

The third method of controlling severe bleeding is the use of a tourniquet. This method should only be used as a last resort, if all other methods fail. Use of this method can result in damage to nerves and blood vessels, and may result in loss of the affected limb. So remember, only use a tourniquet when all other methods of controlling severe bleeding have been tried and failed.

To apply the tourniquet, you will need a triangular bandage, or a piece of cloth, or a long handkerchief, or a rubber tube--the item to be used must be 2 to 4 inches wide. You will also need a short, strong stick, or similar object that will not break. Then, follow these steps to apply the tourniquet.

1. Place the tourniquet just above the wound; do not allow it to touch the wound edges. If the wound is in a joint area or just below, place the tourniquet immediately above the joint.
2. Wrap the tourniquet band tightly around the limb twice and tie a half knot.
3. Place the short, strong stick on the overhand knot and tie two additional overhand knots on top of the stick.
4. Twist the stick to tighten the tourniquet until bleeding stops.
5. Secure the stick in place with the loose ends of the tourniquet, a strip of cloth, or other improved material.
6. Make a written note of the location of the tourniquet and the time it was applied and attach the note to the victim's clothing.

CAUTION: ONCE A TOURNIQUET IS APPLIED, IT SHOULD NEVER BE LOOSENED OR REMOVED EXCEPT BY A PHYSICIAN.

Since internal bleeding occurs totally inside the body, it is not visible to us and, therefore, rather difficult to recognize. Internal bleeding can occur as a result of injuries sustained, such as internal bleeding from a closed fracture (closed fracture meaning a broken bone that has not ripped through the skin); an internal organ such as the liver or spleen which has ruptured due to severe blow to that area; or a closed wound (a wound inside the body due to a blow or fall). Internal bleeding can also be due to certain diseases or conditions such as ulcers or severe infections. And, as we said previously, internal bleeding may result from a nosebleed--with blood running down the throat into the stomach.

The symptoms of severe internal bleeding are the same as some of the symptoms of physical shock. The reason the symptoms are similar is because the victim suffering from severe internal bleeding is in physical shock.

The following is a list of symptoms to help you recognize internal bleeding:

1. Skin is cold or clammy.
2. Eyes are dull.
3. Pupils are extremely large.
4. May be anxious and possibly thirsty.
5. May be nauseated and feel faint and may possibly vomit.
6. May feel pain in the affected area.

If a victim has most of these symptoms and there is a possibility that he is bleeding internally (for example, he tells you he has ulcers, or, he received a blow to the chest or stomach, or, he has a broken hip or leg), you should treat him for internal bleeding.

The treatment is as follows:

1. Keep victim lying down comfortably; loosen his clothing.
2. Maintain temperature (if victim is getting cold, add blankets; if victim is getting warm, remove blankets).
3. Elevate victim's feet about 6 inches, if possible.
4. Anticipate that victim may vomit and give no food or drink and most importantly:
5. Get professional medical help as quickly and safely as possible.

September 1980

HOLMES SAFETY ASSOCIATION MONTHLY SAFETY TOPIC

COFFIN NAILS

You know, cigarettes are often jokingly called coffin nails. We remind you of this because we are going to tell you about six common beliefs that really are coffin nails and we hope you will remember them everytime you light a smoke.

They are:

1. "It always happens to the other person"
   (Maybe so, but he's thinking the same thing and you are the other person to him.)

2. "Your number's up"
   (The only time your number's up is when you invite an accident by a careless act.)

3. "Law of averages"
   (The only way the law of averages can catch up with you is for you to forget yourself and do something foolish. Be alert, work safely and you will be safe.)

4. "The price of progress"
   (There was a time when everyone believed a job cost one human life for every million dollars spent - commonsense safety practice has proved this to be false. Today, jobs running into millions of dollars are completed without a serious accident.)

5. "Spirit of '76" or "safety is sissy stuff"!
   (Even if you are a brave person and not afraid of anything, think of your loved ones and work safely. There is no reason for them to pay for your bravery.)

6. "Act of God" or "Fate"
   (If you really believed in the Act of God or Fate theory, you wouldn't hesitate to walk in front of an express train. You and everyone else would call that suicide. Carelessness in work habits is just as suicidal. Work safely.)

There they are - six killers. Don't let them get you! Live, work, drive and play safely the year 'round and the odds on your living to a ripe old age will go sky high.

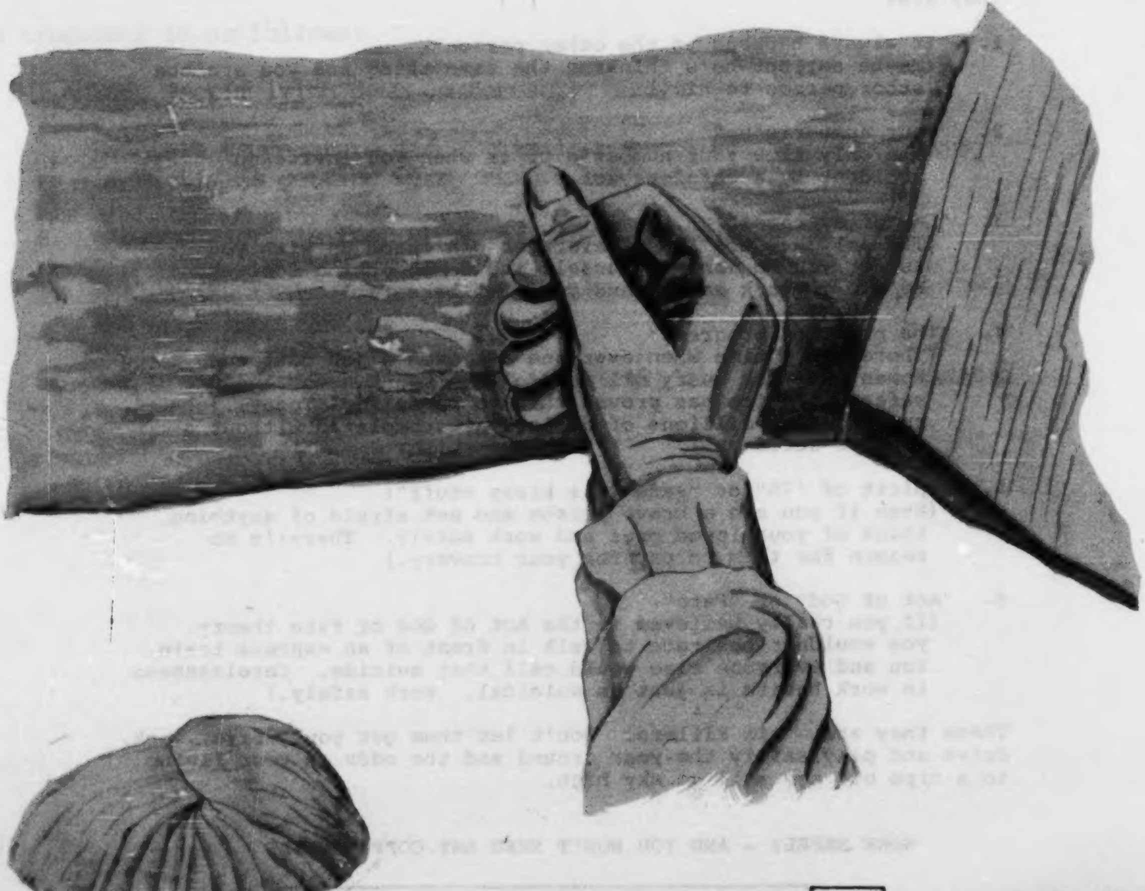
WORK SAFELY - AND YOU WON'T NEED ANY COFFIN NAILS

SAFETY IS EVERYBODY'S BUSINESS

(For use in all mining operations)

HOLMES SAFETY ASSOCIATION

Although the sand was bridged, it was not rigid. A Safety Belt and Line here could have saved a life.



VOTE FOR SAFETY IN 1980

MSHA

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MINERAL INDUSTRIES

BULLETIN

United States Department of Labor
MSHA
Mine Safety and Health Administration

L 38.12:

October 1980

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October 1980

HOLMES SAFETY ASSOCIATION MONTHLY SAFETY TOPIC

Lock Out

Do any of you want to work up a first class nightmare? If you do, I suggest that when you go to bed at night, lie there and figure out what it would be like to be working on or in a machine when someone started it up. They wouldn't know you were there, because you hadn't locked out and tagged the switch.

Every once in awhile, somebody, somewhere, actually gets caught that way. Unexpected starting is possible with any kind of power-driven machine, that is, if proper care is not taken to prevent it. Even the ordinary electrically-powered tools can be involved. Usually it's from failure to pull the plug before making some adjustment or minor repair. ALWAYS PULL THE PLUG OF A TOOL BEFORE YOU MAKE ANY ADJUSTMENT. Always make sure the business end of the tool can't do any business on you.

Machines that more than one person may work on can make it more difficult, but the basic idea is the same. Each person must be held responsible for everyone's safety, particularly their own. The setup must be such.

Accident records are full of cases of workers getting caught and killed or badly mangled by a machine starting unexpectedly. Sometimes, someone closes the switch, when they shouldn't. Switches get out of order and so do clutches. But it is all preventable. If we can get everyone, and it must be everyone, to make absolutely certain that the master switch is locked out and tagged, and will stay locked out until it is to be closed, we will have no more cases of workers getting injured by the machines they are working on.

Hopefully, this advice will be taken seriously--seriously enough to make sure you will never fail to protect yourself.

(For use in all mining operations)

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October 1980

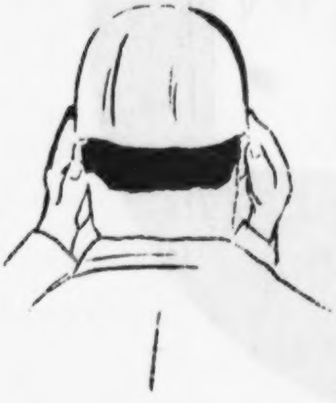
HOLMES SAFETY ASSOCIATION MONTHLY SAFETY TOPIC

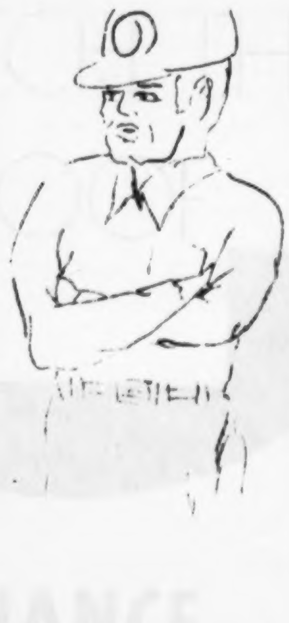
First Aid--Frostbite

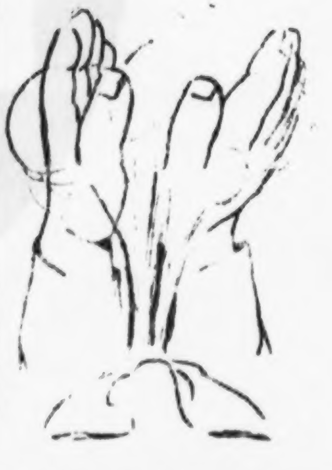
Sometimes, only parts of the body will be affected by cold. You may have heard of explorers getting frostbite, or maybe you or someone you know has been frostbitten.

Ears, fingers, and toes are prime examples of parts of the body which might be frostbitten. The part of the body actually freezes to some extent. In superficial frostbite, the frozen part feels doughy, and there is a redness of the skin. If the freezing is deep, the injury is more serious. The part is white and feels hard throughout.

First aid to a victim of frostbite that is only superficial is warming the part with body heat. This could mean simply covering ears with hands, or having the victim place frostbitten fingers gently in armpits or between legs, or blowing hot breath on fingers.







Only the slightest case of frostbite should be treated in the mine. All other cases must be taken to medical help immediately. Even if a victim has to walk on a frostbitten foot or leg, medical help should be obtained as quickly as possible.

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(For use in all mining operations)

The exception to this is that if frostbitten feet have begun to thaw, the victim should not be allowed to walk.

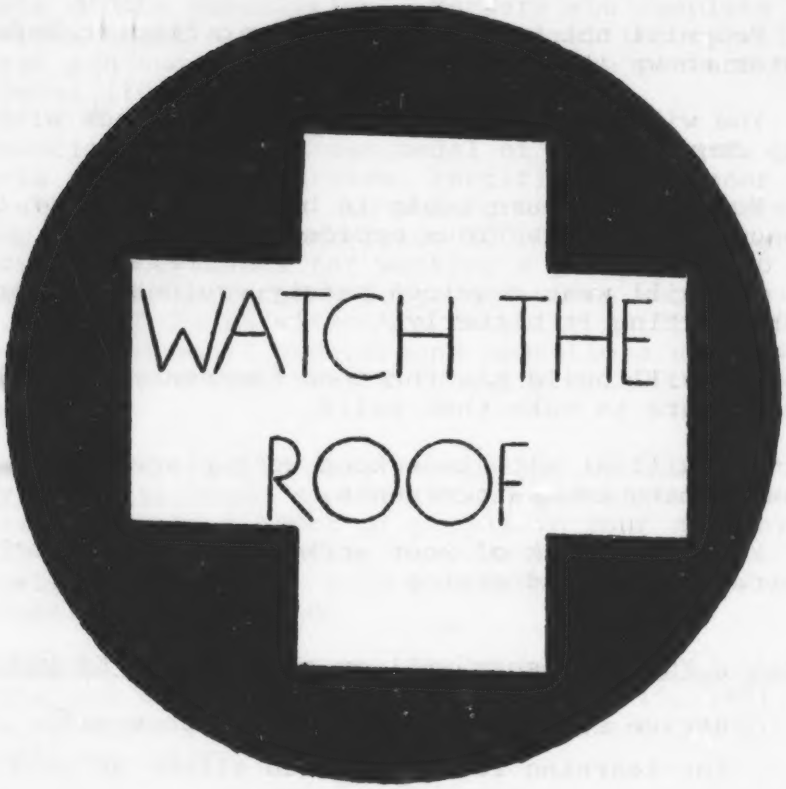
Putting clothing over the frostbite will prevent the injury from deepening.

Treat injured parts very gently. A frostbite injury can become worse if handling is not done with care. You may have heard people suggest that the area or part be rubbed. Never rub a frostbitten part. The injury can become infected.

Another misconception is that putting the part in cold water will help, but this is not true. Do not try to thaw the part in cold water.

The only action you should take with frostbite victims is to cover the part gently and take them to medical help.

HOLMES SAFETY ASSOCIATION


WATCH THE
ROOF

**CHANCE
TAKERS ARE
ACCIDENT
MAKERS**

October 1980

HOLMES SAFETY ASSOCIATION MONTHLY SAFETY TOPIC

A Will to Live

1. You will not approach machines in motion for loose clothing may be hazardous.

2. You will not commence to repair machines before being sure that they will not start.

3. You will not climb to elevated places unless supplied with a safety belt which you can use intelligently.

4. You will not work on an electric circuit before your tester shows it to be safe.

5. You will not carry heavy or clumsy loads without the help required.

6. You will not use tools in bad condition for they frequently cause serious accidents.

7. You will wear required safety equipment under penalty of regretting it bitterly.

8. You will build platforms or temporary scaffolding, taking care to make them solid.

9. You will at all times keep work places clean, for poor housekeeping causes accidents.

10. You will think of your work at all times rather than be distracted by daydreaming.

What's Your Pleasure--Silver and Gold or Education?

Strive for learning before you grow old,
for learning is better than silver or gold,
Silver or gold may vanish away,
but a good education will never decay.

(For use in all mining operations)

SAFETY IS EVERYBODY'S BUSINESS

October 1980

HOLMES SAFETY ASSOCIATION MONTHLY SAFETY TOPIC

ATTENTION--For Your Information

One of the functions of the Joseph A. Holmes Safety Association is to give honor to those to whom honor is due. This is done by giving awards to individuals, supervisors, and companies who have outstanding safety records. If you have an employee in your organization who has worked 40 years without a disabling (lost-time) injury, the Association will award them with a certificate of honor, a gold pin and gold decal bearing the insignia of the Association. Workers who complete 10, 20, or 30 years without a disabling (lost-time) injury will receive a silver pin and decal (30 years), bronze pin and decal (20 years) or a decal (10 years).

The Association also issues medal of honor awards to individuals for acts of personal heroism, certificate of honor awards for group action of heroism, to underground supervisors for working a group under their supervision 250,000 work-hours accident-free, to surface supervisors for working a group 350,000 work-hours, accident-free, to large underground mines who have worked 2,500,000 work-hours without a fatality or 5,000,000 for open-cut mining, and to small underground operations who have accumulated 250,000 work-hours without a fatality or 400,000 for open-cut mining.

These awards are nationally recognized throughout the mining, quarrying, petroleum, concentrating and mineral extraction operations. Make a check of people in your company who may qualify. The Holmes Safety Association is soliciting its membership to apply for such awards where above-average safety performance is indicated.

The records and data sheets should be submitted as soon as possible and will be accepted until March 15, 1981. For copies of the criteria and complete instructions on submitting applications, write to:

Ms. Patricia Kuhn
Mine Safety and Health Administration
Ballston Towers #3, Room 524
4015 Wilson Boulevard
Arlington, Virginia 22203

(For use in all mining operations)

SAFETY IS EVERYBODY'S BUSINESS

October 1980

HOLMES SAFETY ASSOCIATION MONTHLY SAFETY TOPIC

Excerpts from Code of Federal Regulations

Subchapter N--Metal and Nonmetal Mine Safety

Part 55.6--Explosives

All of the standards are mandatory; violation of a standard will subject the mine operator to an order or notice of violation as required by Section 8 of the Act.

55.6 The term "explosives" as used in this Section includes blasting agents. The standards in this section in which the term "explosives" appears are applicable to blasting agents (as well as to other explosives) unless blasting agents are expressly excluded.

Storage

55.6-1 Mandatory. Detonators and explosives other than blasting agents shall be stored in magazines.

55.6-2 Mandatory. Detonators shall not be stored in the same magazine with explosives.

55.6-3 and 55.6-4 (Reserved).

55.6-5 Mandatory. Areas surrounding magazines and facilities for the storage of blasting agents shall be kept clear of rubbish, brush, dry grass, or trees (other than live trees 10 or more feet tall), for a distance of not less than 25 feet in all directions, and other unnecessary combustible materials for a distance of not less than 50 feet.

55.6-6 (Reserved).

55.6-7 Mandatory. Explosives, detonators, and related materials such as safety fuse and detonating cord shall be:
(a) Stored in a manner to facilitate use of oldest stocks first;
(b) Stored according to brand and grade in such a manner as to facilitate identification;
(c) Stored with their top sides up;
(d) Stacked in a stable manner but not more than eight (8) feet high.

(For use in surface metal and nonmetal mines)

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55.6-8 Mandatory. Ammonium nitrate-fuel oil blasting agents shall be physically separated from other explosives, safety fuse, or detonating cord stored in the same magazine and in such a manner that oil does not contaminate the other explosives, safety fuse, or detonating cord.

55.6-9 and 55.6-10 (Reserved).

55.6-11 Mandatory. Containers of explosives, blasting agents, and detonators shall be closed while being stored.

55.6-12 Mandatory. Prior to interior repair of facilities for storage of explosives, including blasting agents, all materials stored within the facility shall be removed and the interior cleaned. Prior to the exterior repair of such facilities, all materials stored within the facility shall be removed if there exists a possibility that such repairs may produce a spark or flame. The explosives removed from storage facilities to be repaired shall be placed either in other storage facilities appropriate for storage of such materials under this section or a safe distance from the facilities under repair where they shall be properly guarded and protected until the repairs have been completed and the materials have been returned to storage within the facilities.

55.6-13 through 55.6-19 (Reserved).

55.6-20 Mandatory. Magazines shall be:
(a) Located in accordance with the current American Table of Distances for Storage of Explosives;
(b) Detached structures located away from powerlines, fuel storage areas, and other possible sources of fire;
(c) Constructed substantially of non-combustible material or covered with fire-resistant material;
(d) Reasonably bullet resistant;
(e) Electrically bonded and grounded if constructed of metal;
(f) Made of nonsparking materials on the inside, including floors;
(g) Provided with adequate and effectively screened ventilation openings near the floor and ceiling;
(h) Kept locked securely when unattended;
(i) Posted with suitable danger signs so located that a bullet passing through the face of a sign will not strike the magazine;
(j) Used exclusively for storage of explosives or detonators and kept free of all extraneous materials;

55.6-20 (Continued)

(k) Kept clean and dry in the interior, and in good repa
(l) Unheated, unless heated in a manner that does not create a fire or explosion hazard. Electrical heating devices shall not be used inside a magazine

55.6-21 through 55.6-39 (Reserved).

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HOLMES SAFETY ASSOCIATION MONTHLY SAFETY TOPIC

Excerpts from Code of Federal Regulations

Mandatory Safety Standards--Underground Coal Mines

Part 75.322--Change in Ventilation

Changes in ventilation which materially affect the main air current or any split thereof and which may affect the safety of persons in the coal mine shall be made only when the mine is idle. Only those persons engaged in making such changes shall be permitted in the mine during the change. Power shall be removed from the areas affected by the change before work starts to make the change and shall not be restored until the effect of the change has been ascertained and the affected areas determined to be safe by a certified person.

Changes in mine ventilation which affect any split or main air current, including any change which increases or decreases the volume of air flowing to any split or main air current, shall be thoroughly checked to insure that no split has been affected in such a way as to cause a hazard to the miners.

Any ventilation change in which any split of air is to be increased or decreased by an amount equal to or in excess of 9,000 c.f.m. shall be made only when the mine is idle.

Before mine power can be restored in all areas affected by such ventilation changes, an examination is required as in Section 75.303.

(For use in underground coal mines)

October 1980

ABSTRACT FROM FATAL ACCIDENT

HOLMES SAFETY ASSOCIATION
MONTHLY SAFETY TOPIC

FATAL MACHINERY ACCIDENT

General Information: A fatal machinery accident occurred on the refuse belt conveyor under construction at a preparation plant resulting in the death of a general laborer. The victim had 8 years construction experience. The accident and resultant fatality occurred when the refuse belt moved by electrical or mechanical means in a forward direction catching the victim between the conveyor belt and take-up roller.

Description of Accident: The victim had been instructed to install shims in the counterweight guides. He positioned himself on a walkway adjacent to the refuse belt in order to weld the shims in place. The victim and a helper were standing on top of the take-up roller. When they started welding, the conveyor belt began to move. The victim was caught between the conveyor belt and roller and was crushed.

Cause of Accident: The following factors were relevant to the occurrence of the accident:

1. During the installation of the conveyor, electrical power was being supplied to the belt unit through a control box located at the belt drive. This control box contained a 225 ampere breaker. There were three stop switches with pull cords installed in series along the refuse belt.

2. On the day of the accident, the 225 amp breaker was left in a closed position and the belt was being started and stopped by using the center stop switch.

3. Once activated, the stop switches required a positive action by a worker to restart the conveyor.

4. Just prior to the accident, the refuse belt was operated for approximately two minutes.

5. The investigating committee was unable to determine the exact circumstance that caused the movement of the refuse belt. A forward movement of the belt would require energizing the drive motor; however, an electrical investigation revealed no deficiencies that would allow the belt to operate when the center stop switch was open. None of the other workers in the vicinity stated that they had closed the stop switch to start the belt.

(For use in preparation plants)

Conclusion: The accident and resultant.fatality occurred when the refuse blet moved by electrical or mechanical means in a forward direction catching the victim between the conveyor belt and take-up roller.

Contributing factors to this accident were as follows:

1. Work was being performed on the belt with the circuit energized.

2. Work was being performed without blocking machinery against motion.

3. The victim placed himself in a hazardous position while performing repair work.

ABSTRACT FROM FATAL ACCIDENT

October 1980

HOLMES SAFETY ASSOCIATION
MONTHLY SAFETY TOPIC

FATAL POWERED HAULAGE ACCIDENT

General Information: A haulage accident occurred approximately 80 feet outby the face of the No. 5 entry resulting in the death of a scoop operator. The victim had 3 years mining experience, 1-1/2 months of which were as a scoop operator.

Description of Accident: The section crew, under their supervisor, entered the mine in a personnel carrier and on a scoop. During travel to the section, the slippery pavement and grades resulted in the equipment getting hung up and delayed the arrival of the crew on the section. At this time, the scoop operator parked the scoop in the last open crosscut between Nos. 4 and 5 entries.

The supervisor then proceeded to examine the working faces, discussed the roof control plan with the crew, and assigned duties to the crew members. The shuttle-car operator and the scoop-shuttle-car operator were directed to assist the loading-machine operator and acting section foreman with cleaning up spillage and loading a cut of coal in the right-hand crosscut off the face of No. 4 entry. Work proceeded normally until the crew went to dinner.

Afterwards, the supervisory, the shuttle-car operator, and the scoop-shuttle-car operator returned to the face area of the No. 4 entry to finish cleaning spillage. After cleaning the spillage, the supervisor and the shuttle-car operator were in the process of moving the loading machine out of the No. 4 entry when the supervisor noticed the shuttle-car operator crawling away. He assumed that the shuttle-car operator was going to clear the trailing cable for moving the loading machine out of the place.

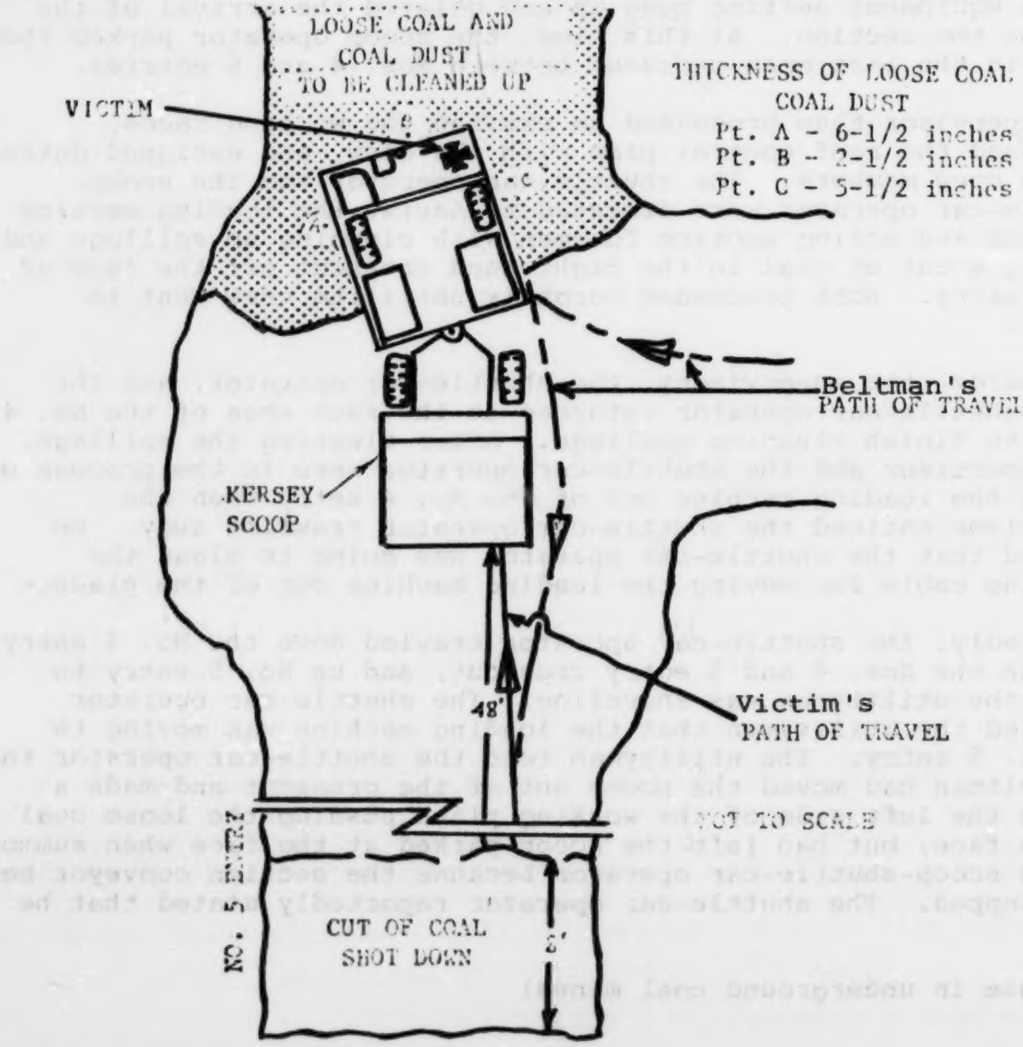
Reportedly, the shuttle-car operator crawled down the No. 4 entry, through the Nos. 4 and 5 entry crosscut, and up No. 5 entry to where the utilityman was shoveling. The shuttle-car operator notified the utilityman that the loading machine was moving to the No. 5 entry. The utilityman told the shuttle-car operator that the beltman had moved the scoop out of the crosscut and made a run up the left side of the working place pushing the loose coal to the face, but had left the scoop parked at the face when summoned by the scoop-shuttle-car operator because the section conveyor belt had stopped. The shuttle-car operator reportedly stated that he

(For use in underground coal mines)

had run the scoop before and that he would move it into the clear. He backed the scoop approximately 48 feet down the No. 5 entry when he traveled into an area where loose coal and coal dust, from cutting the bottom, had restricted the height. The utilityman saw the victims' hat fall off and when he investigated, he found the victims' head crushed between the roof and the top of the scoop. After help was summoned, the victim was removed from the scoop and transported to the hospital where he was pronounced dead.

Cause of Accident: The accident occurred when the victim operated the scoop in an unsafe manner and backed onto loose coal and coal dust.

The major contributing factor was that the victim was an untrained operator and placed himself in a position of looking over the top of the machine without assuring himself of adequate vertical clearance.


LOOSE COAL AND
COAL DUST
TO BE CLEANED UP
VICTIM
THICKNESS OF LOOSE COAL
COAL DUST
Pt. A - 6-1/2 inches
Pt. B - 2-1/2 inches
Pt. C - 5-1/2 inches
B
C
A
Beltman's
PATH OF TRAVEL
KERSEY
SCOOP
48'
Victim's
PATH OF TRAVEL
NOT TO SCALE
NO. 5 ENTRY
CUT OF COAL
SHOT DOWN
8'

October 1980

HOLMES SAFETY ASSOCIATION MONTHLY SAFETY TOPIC

Is Your Safety Program A Success?

For years safety engineers have been asked to determine why some safety programs fail, while others are most successful. Reasons for failure, in practically every instance, have been the same; top management either did not understand fully its responsibilities in a safety program or did not give its full support to the program. Therefore, first line supervision, the next echelon in a successful program, did not have the authority or the initiative to proceed effectively. Perhaps we should stop using the term safety program and substitute management's program, for that is what it must be.

A safety program can be considered somewhat analogous to a new-born child. It requires tender loving care from birth to maturity if both are to blossom. Too often, a safety program is more akin to an orphan. Today we hear it said that delinquent children are the product of delinquent parents, congruently, a poor safety program or record is generally a product of delinquent top management. For a safety program to succeed and be completely effective, it must originate with--and have full backing and follow through of top management. When this point has been clarified, and then only, should you proceed to organize your program. This does not mean that a company president or director must personally conduct the program, but the full weight and knowledge that the office is 100 percent behind the program must be known. Not only made known, but be a matter of fact.

Once management has come to accept the need for accident prevention, the administration or coordination of a safety program can be delegated to a subordinate. Delegation of such authority in the case of the very small plant is, of course, sometimes impractical. The subordinate may be designated as "Safety Director" and acts as a direct representative of top management in all matters pertaining to safety.

In medium or small-sized plants, the safety director usually has additional duties. However, regardless of the plant size, the safety director must be afforded sufficient time to carry out the safety duties if results are to be obtained. Needless to say, the safety director cannot be just any individual. To be truly effective, the director should be genuinely interested in safety, have a good knowledge of plant operations and processes, possess sound judgement and have the ability to cooperate with and persuade others--especially front-line supervisors.

SAFETY IS EVERYBODY'S BUSINESS

(For use in all mining operations)

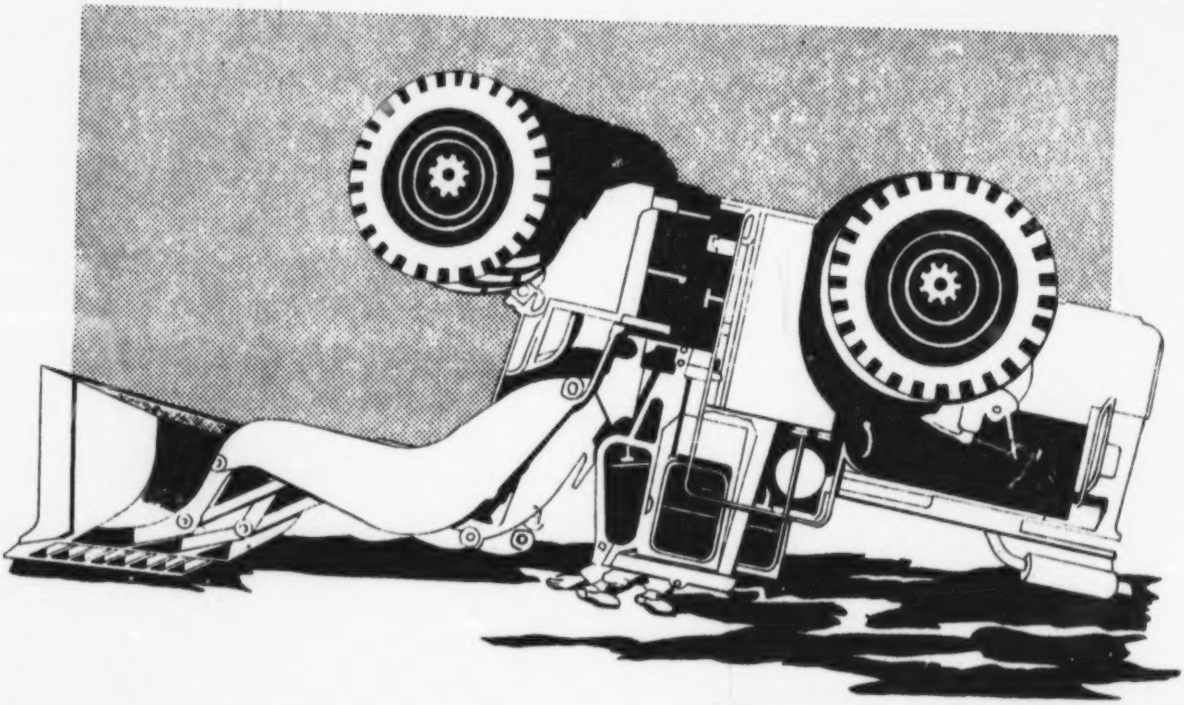
While the safety director's responsibilities include the application of the safety program, the director should not be held totally responsible for the accident record of individual departments. This responsibility is that of the individual department supervisor and cannot be delegated.

The next most important level of responsibility, once that of top management is acknowledged, is that of the line supervisor. The supervisors issue orders to those working under them, generally has a voice in the selection of those assigned to their department, and is looked upon by their workers as the direct representative of management. Their attitude toward those working under their supervision will be generally interpreted as that of management. Being charged with the quality and quantity of work produced by their department, they are therefore responsible for the conduct of those under their supervision. While most line supervisors readily recognize the necessity of exercising control to get work done correctly and on time, many do not recognize the need for the same degree of supervision and control to get the work done safely. Educating the line supervisor to this end is of the utmost importance. This cannot be a hit-or-miss proposition, but requires adequate planning at the top level as well as at the job level.

In the final analysis, successful programs have the following in common: 1. Interest, support and placement of responsibility by top management; 2. Constructive, productive action; 3. Constant promotion and leadership by front-line supervision. In reality, this is no secret formula for safety success.

HOLMES SAFETY ASSOCIATION

When will we learn that we need ROLLOVER PROTECTION, SEAT BELTS, AND BERMS.



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HOLMES SAFETY ASSOCIATION

in this issue....

NOVEMBER 1980

1. Safety Topic, "The Role of Rules"
2. Safety Topic, "Test Your Tool Knowledge"
3. Safety Topic, "Proper Roof Testing"
4. Safety Topic, "Safe Hoisting"
5. Safety Topic, "First Aid--Wounds, Bruises, and Strains"
6. Safety Topic, "Part 55.6--Transportation"
7. Abstract, "Fatal Fall-of-Material (Suffocation) Accident"
8. Abstract, "Fatal Roof-Fall Accident"
9. Poster, "Rings Are a Hazard at Work"
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11. Safety Topic, "Holmes Safety Association Chapters Established Third Quarter 1980"
12. The Last Word
13. Meeting Report Form (chapters only)

SAFETY HAT DIRECTIONS:
GO ON AHEAD!

November 1980

HOLMES SAFETY ASSOCIATION MONTHLY SAFETY TOPIC

THE ROLE OF RULES

When God created man, He knew His creation would not be capable of living in the world without a set of rules to govern the lives of individuals and the society in which they lived. The history of civilization is continuing to prove that individuals, families, tribes, or nations must pay the price for failure to live by the rules.

The mining industry certainly has its share of rules, regulations, standards, and requirements, but we continue to have occurrences resulting in injuries. What is wrong? Do we need additional or more stringent rules? We can trace and attribute all mine injuries, either directly or indirectly, to some failure in applying existing rules. Why not promote mine safety through two basic fundamentals - Training and Follow-up?

Training - Safety training has only one purpose and goal, it cannot succeed until someone has learned. When a person has learned, they reach first base. When they have the incentive for applying this learning, they reach second base. When they remember, they reach third base, but when they use the training, EVERYONE SCORES!

Follow-up - The never-ending job of follow-up keeps the game going by inspections, additional training, and constant practice. All good supervisors are safety inspectors and must see that all hazards must be minimized and controlled, the wrong way corrected, and the right way stressed.

Two ardent golfers, who skipped Church one Sunday morning to play a few holes, were feeling guilty about it. "I couldn't have gone to Church today anyhow," one said. "My wife is sick in bed." Excuses have no place in safety.

KNOW AND USE THE RULES. IF WE CANNOT AFFORD SAFETY WE CANNOT SURVIVE!

(For use in both surface and underground mining operations)

SAFETY IS EVERYBODY'S BUSINESS

November 1980

HOLMES SAFETY ASSOCIATION MONTHLY SAFETY TOPIC

TEST YOUR TOOL KNOWLEDGE

The tools we use everyday are well known to us. However, the degree of care we give them and the way in which we use them can contribute to an accident. Test your tool knowledge by taking this short quiz.

1. To increase leverage when using a rachet wrench, it is recommended that a substantial piece of pipe be slipped over the handle. TRUE OR FALSE

2. When using an adjustable wrench, it is recommended that the open jaws face the user. TRUE OR FALSE

3. An adjustable wrench should be pushed rather than pulled. TRUE OR FALSE

4. The screwdriver is one of the most universal of tools. It can be used as a drill or a punch as well as for turning screws. TRUE OR FALSE

5. A roughness on the handle of a screwdriver may be smoothed by light sanding. TRUE OR FALSE

6. The plastic covering on long nose pliers is for protection against hazardous voltages. TRUE OR FALSE

7. When using a hacksaw, pressure should only be applied on the forward stroke. TRUE OR FALSE

8. Tape may be used to secure the fraying ends of a rope. TRUE OR FALSE

9. Temperature has no affect on tools. TRUE OR FALSE

10. If a chain hoist is hard to operate, a good dose of oil will cure it. TRUE OR FALSE

SAFETY IS EVERYBODY'S BUSINESS

(For use in all mining operations)

ANSWERS:

1. FALSE - This is a dangerous practice.
2. TRUE - This action tends to force the wrench onto the nut.
3. FALSE - This is asking for sore knuckles.
4. FALSE - A screwdriver is only a screwdriver.
5. TRUE.
6. FALSE - It is there for comfort only.
7. TRUE - That is how the blade is designed to cut.
8. FALSE - Tape will trap water which will rot the rope.
9. FALSE - Metal tools can become somewhat brittle below 50°F.
10. FALSE - Oil a chain hoist only at the indicated oil holes; otherwise, return for repair.

November 1980

HOLMES SAFETY ASSOCIATION MONTHLY SAFETY TOPIC

PROPER ROOF TESTING

1. Always make a visual examination of the area first. If you can see the roof is bad, why test it?
2. Always stand under supported roof to start testing.
3. In face areas, test only far enough to erect next supports.
4. Always start from supported roof and examine toward face.
5. Never turn your back to the face or ribs while testing.
6. Always use bare fingers against roof with your thumb pointed toward you. (This will make it difficult for you to walk out under supported roof.)
7. Start tapping the roof lightly at first with your sounding rod, then increase your stroke to hear the sound of the roof or feel vibration.
8. Always use an approved testing tool.
9. Always use goggles to protect your eyes.
10. Test roof frequently while working. (Roof conditions can change frequently.)
11. Test closely for cracks, slips, kettle bottoms, horsebacks, or any irregular formation.
12. Always test ribs and face as well as the roof.
13. Always test roof, face, and ribs before any other work is done.
14. In high places, use a sturdy bench or long testing tool.
15. Always be sure of a safe line of retreat.
16. Always take enough time and be serious minded enough to satisfy yourself that you have made a good examination.

(For use in underground coal mining operations)

SAFETY IS EVERYBODY'S BUSINESS

November 1980

HOLMES SAFETY ASSOCIATION MONTHLY SAFETY TOPIC

SAFE HOISTING

1. Single-leg hitches do not provide good load control and are not to be used for long loads.
2. Sling legs should be as nearly vertical as practical to reduce the dangerous tension strains imposed by large angles between legs.
3. Hands should be kept from between slings and the load.
4. Padding (wood facings, soft metal guards) should be used when slings pass around sharp corners on the load -- even when the sling is tough wire rope or chain.
5. Work should never be turned in a basket hitch. When turning in a choker hitch, the eyes of the sling must be placed so they face opposite to the direction of turn.
6. Sling materials must never be knotted.
7. Care should be taken to assure the lifting hook is over the center of the load to be lifted.
8. Choker hitches made with shackles or special choker hooks are safer than simply running the sling through its own terminal loop.
9. Slings should hang from the center of the hoist hook, not ride out toward the tip.
10. Hooks should never be forced into chain by hammering.
11. Loads should never be left suspended.

(For use in both surface and underground mining operations)

SAFETY IS EVERYBODY'S BUSINESS

November 1980

HOLMES SAFETY ASSOCIATION MONTHLY SAFETY TOPIC

FIRST AID--WOUNDS, BRUISES, AND STRAINS

WOUNDS

Any time there is machinery, heavy objects to be lifted, or vehicles operating around people, there is a danger that someone will experience a wound. Add those hazards found in a mine--especially an underground mine--and the dangers increase. Being on guard to prevent accidents is most important!

You can get an open wound even though you are careful. The term open wound describes a wound in which the skin is broken.

One kind of open wound is what many people call a scrape. (The medical name is abrasion.) This happens when the skin is rubbed against a hard surface. In a mine you might scrape your hand on a timber, or the wall of the mine, for example. A scrape isn't usually very deep and blood sometimes seems only to ooze out through the wound.

A laceration is a jagged, irregular wound that is usually caused when great force is exerted against the body.

Another kind of open wound is a cut made by any sharp object, such as a knife. The cut is smooth and goes through the skin and blood vessels. This kind of open wound is called an incision.

The fourth kind of open wound is a stab (puncture) wound. This can happen not only from a knife (which "stab" makes us think of) but any pointed object such as a nail, ice pick, or splinter.

CAUTION: Any time there is a break in the skin there is a danger of infection.

To carry this warning a step farther, infection can cause serious illness or a loss of a part of your body, such as a finger, toe, arm, or leg.

The wound should be covered. Covering a wound keeps germs from getting into it, thus keeping it from further chance of infection.

Sometimes an open wound will be a surface sign of a more serious injury. For example, someone who has an open wound on the head might also have injured the brain. Since you will not always be certain how serious an open wound is, take the victim to a physician.

A closed wound is one where there is no break in the skin. A closed wound can happen within any part of the body. Blood isn't lost through the skin, but it may flow through natural cavities of the body, such as ears, and nose, or mouth.

Some closed wounds are small injuries, such as a black eye. Other closed wounds may involve a lot of internal bleeding--for example, those due to damage of internal organs.

BRUISES

The most common closed wounds you will see in a mine and elsewhere are bruises. Bruises are caused by a blow from a hard object. A fall or a bump is likely to cause bruises.

At first a bruise might appear red and there will be some swelling. Then it will change to a darker blue or purple. The larger the vessel which is broken the more blood will be gathered and the greater the swelling will be. It will be painful to touch.

The aid to be given to a victim of a bruise is to try to keep the swelling down. Cold will do this. Holding the bruised part under cold water, or putting ice in a cloth and applying it to the bruise will help.

If the bruise is severe, raise the injured part and encourage the victim to rest. He should be seen by a physician because a bruise on the surface may be an indication of a more serious injury underneath.

STRAINS

Another type of closed wound is a strain. A strain is the overstretching of a muscle or a tendon. In severe strains the muscle or tendon may be torn. (Think of stretching a wide rubber band until it weakens, perhaps breaks.)

By using your muscles correctly you can usually avoid strains, since they are caused by sudden movements or violent exertion in lifting or moving heavy weights.

When someone gets a strain there will be a sharp pain or cramp right away. Then, the muscle or tendon which has been affected will be painful to move for awhile. There may be some swelling.

To aid a victim of a strain, first make the victim comfortable as possible. Hot application will help, but you may not have them available.

Also, rubbing the strained part gently with alcohol or witch hazel may help to relieve the pain. Again, these may not be available in the mines. Wherever you are, keep the injured part at rest.

People often confuse a strain with a sprain. If you remember that a sprain involves a joint, this will help you to remember it. Sprains are injuries due to the stretching or tearing of ligaments or other tissue around a joint.

You may have had a sprain at some time. A minor sprain may cause only some discomfort for a few hours, such as in a "twisted ankle" you may have had when you stepped off a curb and landed "wrong" on your foot.

Severe sprains may need many weeks of medical care before the joint can be used again.

When a sprain occurs swelling usually happens immediately and the skin at the joint may be discolored.

CAUTION: You may hear "rules of thumb" about how to tell a sprain from a break by the swelling or no swelling--pain or no pain, etc. Never assume that an injury is one or the other in this way. Take the victim to a physician who will probably not be able to tell for sure and most likely will x-ray the part to find out.

In the meantime, the affected joint should be raised and given absolute rest. Cold applications will relieve pain. Do not wrap the joint. A sprain should be treated like a fracture.

An injury that you may have thought of as a kind of "strain" is a rupture or hernia. Someone might say, "Don't strain yourself; you'll get a hernia." Most commonly, a hernia is a part of an internal organ (usually the bowel) which protrudes through the wall of the abdomen. You'll probably find that this occurs in or just above the groin, but it can happen anywhere in the abdomen.

Ruptures happen as a result of a combination of weakness of the tissues and muscle strain. This can happen during violent coughing, sudden jars in jumping, lifting, or pushing. The victim of a rupture will feel a sharp, stinging pain and the feeling of something giving way where the rupture is. The victim may be nauseated and may vomit. In examining the rupture victim, you might see swelling that will range from the size of a marble to that of a doubled-up fist.

The victim will be in pain. Position them in a way that is most comfortable and proceed to a physician. Do not attempt to do anything to or for the rupture.

The tissue is already weak when a rupture occurs and it is the combination of that weak tissue and muscle strain which causes the rupture. Other strains can be caused by lifting heavy objects. To avoid strains, learn how to lift heavy objects correctly. The idea is to put "strain" on muscles which are not as likely to be injured by lifting--leg muscles.

1. Plant your feet firmly and apart.
2. Squat down, keep your back as straight as possible and get a good grip on what you will be lifting (do not lean forward).
3. Lift slowly, pushing up with your strong thigh and leg muscles.
4. Do not jerk the object upward or twist your body as you lift.

If you are placing a heavy object from a height to the ground, you just reverse the procedure.

November 1980

HOLMES SAFETY ASSOCIATION MONTHLY SAFETY TOPIC

Excerpts from Code of Federal Regulations

Subchapter N--Metal and Nonmetal Mine Safety

Part 55.6--Transportation

All of the standards are mandatory; violation of a standard will subject the mine operator to an order or notice of violation as required by Section 8 of the Act.

55.6-40 Mandatory. Explosives and detonators shall be transported in separate vehicles unless separated by 4 inches of hardwood or the equivalent.

55.6-41 Mandatory. When explosives and detonators are hauled by trolley locomotive, covered, electrically-insulated cars shall be used.

55.6-42 Mandatory. Self-propelled vehicles used to transport explosives or detonators shall be equipped with suitable fire extinguishers.

55.6-43 Mandatory. Vehicles containing explosives or detonators shall be posted with proper warning signs.

55.6-44 Mandatory. When vehicles containing explosives or detonators are parked, the brakes shall be set, the motive power shut off, and the vehicles shall be blocked securely against rolling.

55.6-45 Mandatory. Vehicles containing explosives or detonators shall not be taken to a repair garage or shop for any purpose.

55.6-46 Mandatory. Vehicles containing explosives or detonators shall be maintained in good condition and shall be operated at a safe speed and in accordance with all safe operating practices.

55.6-47 Mandatory. Vehicles used to transport explosives, other than blasting agents, shall have substantially constructed bodies, no sparking metal exposed in the cargo space, and shall be equipped with suitable sides and tailgates; explosives shall not be piled higher than the side or end enclosures.

SAFETY IS EVERYBODY'S BUSINESS

(For use in surface metal and non-metal mines)

55.6-48 Mandatory. Explosives and blasting agents shall be transported without undue delay, and over routes and at times that expose a minimum number of persons.

55.6-49 (Reserved)

55.6-50 Mandatory. Other materials or supplies shall not be placed on or in the cargo space of a conveyance containing explosives, detonating cord or detonators, except for safety fuse, and except for properly secured, nonsparking equipment used expressly in the handling of such explosives, detonating cord or detonators.

55.6-51 Mandatory. Explosives or detonators shall not be transported on locomotives.

55.6-52 (Reserved)

55.6-53 Mandatory. Only the necessary attendants shall ride on or in vehicles containing explosives or detonators.

55.6-54 Mandatory. Explosives or detonators shall not be transported on man trips.

55.6-55 (Reserved)

55.6-56 Mandatory. Substantial nonconductive containers shall be used to carry explosives to blasting sites.

55.6-57 Mandatory. Nonconductive containers with tight-fitting covers shall be used to transport or carry capped fuses and electric detonators to blasting sites.

55.6-58 through 55.6-64 (Reserved)

55.6-65 Mandatory. Vehicles containing detonators or explosives, other than blasting agents, shall not be left unattended except in blasting areas where loading or charging is in progress.

55.6-66 through 55.6-89 (Reserved)

ABSTRACT FROM FATAL ACCIDENT

November 1980

HOLMES SAFETY ASSOCIATION
MONTHLY SAFETY TOPIC

FATAL FALL-OF-MATERIAL (SUFFOCATION) ACCIDENT

General Information: An assistant mill operator was suffocated when bridged material he was standing on collapsed and he was buried under about 7 feet of crushed ore. The victim had a total milling experience of about 6 years, the last 3 years as an assistant mill operator.

Description of Accident: The victim had been performing his duties as a second mill operator until he and a coworker entered the bin to air lance material into a chimney over a conveyor belt. The material extended from the belt to the top of the ore surface. Work proceeded without incident until the bridged material the victim was standing on collapsed under him. The victim was engulfed by 6 to 8 feet of ore. Neither worker was wearing safety belts with safety lines when the accident occurred.

Rescue efforts started immediately and after 1 hour and 25 minutes, the victim was removed from the bottom of the bin. Attempts at digging him out from the top failed due to sloughing of material. The victim was checked for vital signs but none were detected.

Cause of Accident: The cause of the accident was supervisors condoning the practice of persons working inside ore bins without safety belts or lines. Contributing factors were:

Failure of the operator to provide reliable method of hooking up safety lines;

Poor illumination may have been a factor in assessing the conditions that existed;

The victim did not properly evaluate the hazards of working in a bin without safety lines;

The supervisors apparently did not enforce safe practices in bin work.

Recommendations: Safety belts and lines shall be worn when work is performed where there is danger of falling. A second person shall tend the lifeline when bins, tanks, or other dangerous areas are entered.

(For use in surface metal and nonmetal mining operations)

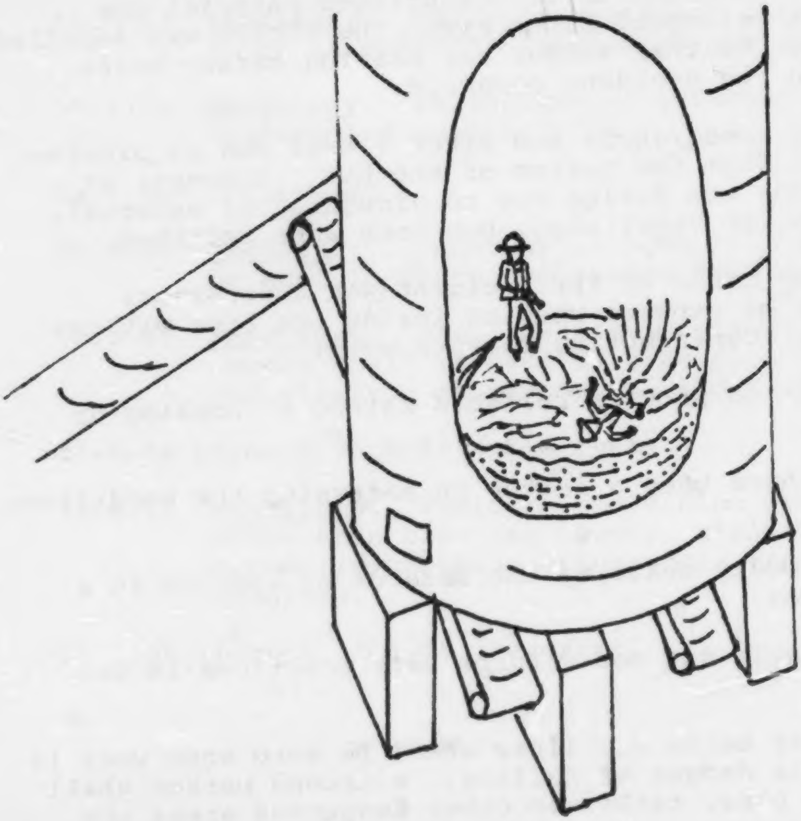
All employees and officials should be familiar with company, State and Federal health and safety regulations applicable to their jobs.

Each working place should be visited by a supervisor at least once each shift and more frequently as necessary to insure that work is being done in a safe manner.

Illumination sufficient to provide safe working conditions shall be provided at all work areas.

Employees should be constantly alert to the potential of accidents on their jobs.

FATAL FALL-OF-MATERIAL (SUFFOCATION) ACCIDENT



ABSTRACT
FROM
ATAL ACCIDENT

November 1980

HOLMES SAFETY ASSOCIATION
MONTHLY SAFETY TOPIC

FATAL ROOF-FALL ACCIDENT

General Information: A roof-fall accident occurred resulting in the death of a loading-machine operator. The victim had about 3-1/2 years mining experience, the last 2-1/2 of which were as a loading-machine operator.

Description of Accident: The section crew, under the instruction of their supervisor, entered the mine and proceeded to the working section. Their supervisor informed the crew members as to the location of the mining machinery and examined the working places.

The loading-machine operator (victim) began loading operations in the entry and loaded out a cut of coal in the crosscut between the two entries. The supervisor instructed the victim to clean a third entry with the loading machine, where an overhanging rib had been sheared down with the cutting machine. He further instructed him to knock the temporary supports out with the loading machine. Mining activities in this entry had previously been hampered when water and soft bottoms were encountered. Management decided to stop the face and hole back into this entry from a crosscut on the inby side. This left an area ranging from 24 to 28 feet where there were no permanent roof supports (roof bolts).

The victim moved the loading machine into this entry and with the assistance of the shuttle-car operator, began removing temporary supports. The shuttle-car operator stated that after removing three temporary supports he commented to the victim that the roof did not look too good. The victim agreed and proceeded into the unsupported area toward the temporary supports that were on the outby side. According to the shuttle-car operator, he then asked the victim what he planned to do and the victim answered that he intended to clean it up so they would not have to come back.

The shuttle-car operator proceeded into the unsupported area with the victim and again commented that the roof looked "scaly." The victim answered by remarking that there was no weight on the supports. After the shuttle-car operator removed one of the supports, he turned and was about to place the jack along the rib when he heard the roof fall. Evidently, the victim was attempting to remove a jack when the roof fell, crushing him. Upon seeing what had happened, the shuttle-car operator yelled for assistance from the other crew members, who arrived at the scene within

(For use in underground coal-mining operations)

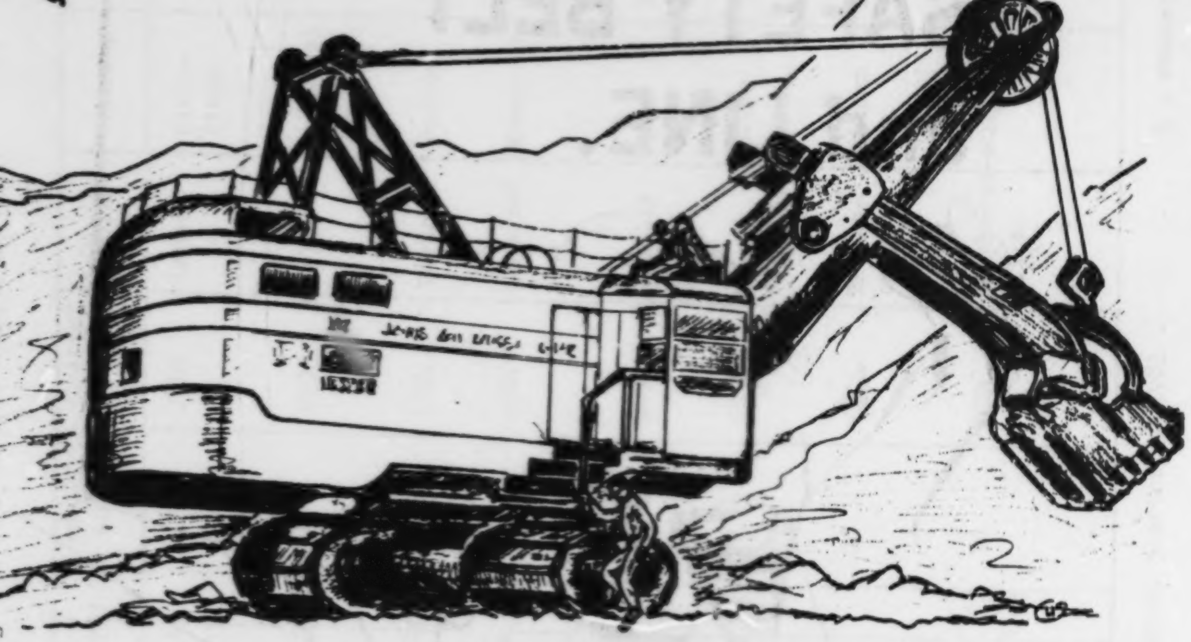
seconds. The victim was freed from underneath the rock. The rescuers detected a pulse, but it was rapidly growing fainter. First aid was administered for about 15 minutes until the victim was transported to the hospital. Death was attributed to a crushed chest, fractured pelvis, and crushed right leg.

Cause: The fatal accident occurred because the approved roof control plan was not being complied with.

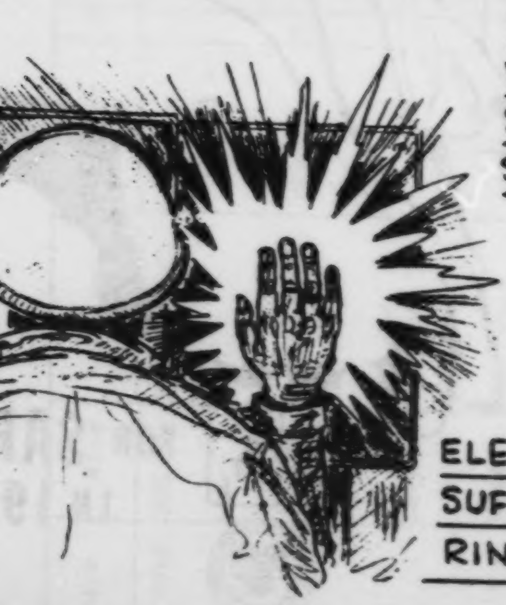
Contributing factors were the fact that the victim did not follow the instructions issued by the supervisor and that management did not succeed in the areas of training to ensure that compliance with the approved roof control plan was achieved.

INGS ARE A HAZARD AT WORK

MANY MINOR INJURIES TO FINGERS BECOME AN AMPUTATION DUE TO A RING BEING INVOLVED



IN CLIMBING DOWN FROM SHOVEL WORKMAN PLACED HAND ON BOTTOM STEP. RING CAUGHT ON EDGE OF STEP RESULTING IN AMPUTATION



ELECTRICIAN WORKING ON PANEL SUFFERED A SEVERE BURN WHEN HIS RING CAUSED A SHORT AND MELTED

HOLMES SAFETY ASSOCIATION

On the job, keep in mind to Wear your SAFETY BELT and LINE.

VOTE FOR SAFETY
IN 1980

Established July through September 1980

Chapter	Mine	Company	Product	U	S	P	Membership	Charter No.	City	County	State	Established By	Date	Council Affiliatio
HDL Coal	HDL #1	HDL Coal Co.	coal		X		9	2889	Lanse	Clearfield	PA	[1]G. Walaitis [3]L. Baumgardner	7/10	Clearfield
Wyomac Coal	Wyomac Coal	Wyomac Coal Company	coal	X	X	X	7	2890	Welch	McDowell	WV	[1]Kirk Harmon [3]Sid Green	7/17	Nonaffiliated
Levy	Levy	The Levy Co. Inc.	slag			Mill	200	2891	Portage	Porter	IN	[3]G. Kassal	8/1	Nonaffiliated
Will's Construction	Mine #1	PBS Coals Inc.	coal		X		15	2892	Somerset	Somerset	PA	[3]H. Will	8/6	Richard Maize
Mobil Chemical	Mobil Chemical	Mobil Chemical Company	phosphate		X	X Mill	590	2893	Nichols	Polk	FL	[3]J. Boswell	9/2	Nonaffiliated
F & E Erection	F & E Erection	F & E Erection Co. Inc.	construction		X	X Mill	200	2894	San Antonio	Bexar	TX	[3]H. Hickman	9/23	Nonaffiliated
Oldham County Stone	Oldham County Stone	Ready Mix Concrete Co.	crushed stone		X		25	2895	Brownsboro	Oldham	KY	[1]J. Johnson [3]E. Kessler	9/26	Nonaffiliated
Bullitt County Stone	Bullitt County Stone	Ready Mix Concrete Co.	crushed stone		X	X Mill	30	2896	Shepherdsville	Bullitt	KY	[1]J. Johnson [3]E. Kessler	9/26	Nonaffiliated

Total chapter established during the third quarter of 1981 .... 8 - Membership - 1,076

Total chapters nationwide .... 1,531 - Membership - 215,583

THE LAST WORD

November 1980

NEW WONDER DRUG

Of all the wonder drugs today, there is one which is 100 percent effective. It develops no allergy in the user and it provides instantaneous relief if applied. Unlike other drugs, it does not build up an immunity to itself if used daily, but rather has a tendency to make one rely upon it. It can prevent broken bones, twisted backs, loss of sight, even death itself. It is cheaper than aspirin, but not enough people buy it. It is not a narcotic, but people generally agree that we would all be better off if we became addicts. It is called SAFETY-MYCIN.

SOUND FAMILIAR?

In the course of accident investigation, how often have you heard this said? "I don't know how it could have happened--she or he was one of the most careful people I ever worked with!"

If that is true of a careful worker, then what of the workers who are lukewarm regarding safety and accident prevention?

****

THANKSGIVING

DEFINITION: (Webster's Dictionary)

"Act of rendering thanks, especially to God. A prayer expressing gratitude. Thanksgiving Day: A day (usually the fourth Thursday in November) set aside each year for Thanksgiving and to praise God."

At this time of year, we in the mining industry should be especially thankful for the safety records established year-to-date. There have been some rough spots, and a number of serious accidents have occurred. However, we are thankful that the "near accidents and close shaves" experienced by many of our miners and supervisors occurred in such a manner as to permit them to still enjoy this day of thanks giving.

HOME
SWEET
HOME
Thanksgiving

U.S. Government Printing Office: 1980-677-182/2

MSHA, Holmes Safety Association
Education and Training
P.O. Box 25367
Denver, Colorado 80225

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SAFETY EFFICIENCY
MINERAL INDUSTRIES

BULLETIN

United States Department of Labor
MSHA
Mine Safety and Health Administration

L 38.12:

HOLMES SAFETY ASSOCIATION

in this issue....

DECEMBER 1980

1. MERRY CHRISTMAS AND A HAPPY NEW YEAR
2. Safety Topic, "Part 77--Surface Coal Mines and Surface Work Areas of Underground Coal Mines Subpart M--Maps, Sections 77.1200-77.1202"
3. Abstract, "Fatal Machinery Accident"
4. Abstract, "Fatal Haulage Accident"
5. Safety Topic, "Part 55.6--Use"
6. Safety Topic, "Safety in Mine Haulage"
7. Safety Topic, "An Accident?"
8. Safety Topic, "One Bad Apple"
9. Safety Topic, "Shock...Nature's Killer"
10. Safety Topic, "First Aid in the Mines"
11. Meeting Report Form (chapters only)

THE LAST WORD

"The helping hand you need is often
the one at the end of your arm"

Merry Christmas
and a Happy New Year

HOLMES SAFETY ASSOCIATION

December 1980

HOLMES SAFETY ASSOCIATION MONTHLY SAFETY TOPIC

Excerpts from Code of Federal Regulations

Part 77--Surface Coal Mines and Surface Work Areas of Underground Coal Mines

Subpart M--Maps, Sections 77.1200-77.1202

Long before the first lump of coal is extracted, a mine map is prepared for use by management. Many questions must be answered before a new mine is opened. The most important of these are:

1. How many mineable seams exist on the property?
2. What geological features can be predicted?
3. Where should mining start?
4. What mining system and equipment must be used?
5. How must the mine workings be projected?

Through the methods of prospecting or exploring, many of these questions will be answered. Engineering surveys establish elevations that will determine the direction of water flow and other data necessary to make judicious decisions. Sound safety engineering principles must be used to make these decisions.

The health and safety of mine workers depends on accurate and properly interpreted mine maps. Several accidents have been attributed to mapping or survey errors. For example, an inundation of water occurred when an auger drill holed through into an abandoned mine which resulted in the flooding of the entire pit. Although no loss of life or injury occurred, there was considerable property damage.

The operator shall maintain an accurate and up-to-date map of the mine, on a scale of not less than 100 nor more than 500 feet to the inch, at or near the mine, in an area chosen by the mine operator, with a duplicate copy of file at a separate and distinct location, to minimize the danger of destruction by fire or other hazard. The map shall show:

(a) Name and address of the mine;

(b) The property or boundary lines of the active areas of the mine;

(c) Contour lines passing through whole number elevations of the coalbed being mined. The spacing of such lines shall not exceed 25-foot elevation levels, except that a broader spacing of contour

SAFETY IS EVERYBODY'S BUSINESS

(For use in surface-coal-mining operations) lines may be approved by the District Manager for steeply pitching coalbeds. Contour lines may be placed on overlays or tracings attached to mine maps;

(d) The general elevation of the coalbed or coalbeds being mined, and the general elevation of the surface;

(e) Either producing or abandoned oil and gas wells located on the mine property;

(f) The location and elevation of any body of water dammed or held back in any portion of the mine: Provided, however, such bodies of water may be shown on overlays or tracings attached to the mine maps;

(g) All prospect drill holes that penetrate the coalbed or coalbeds being mined on the mine property;

(h) All auger and strip mined areas of the coalbed or coalbeds being mined on the mine property together with the line of maximum depth of holes drilled during auger mining operations;

(i) All worked out and abandoned areas;

(j) The location of railroad tracks and public highways leading to the mine, and mine buildings of a permanent nature with identifying names shown;

(k) Underground mine workings underlying and within 1,000 feet of the active areas of the mine;

(l) The location and description of at least two permanent base line points, and the location and description of at least two permanent elevation bench marks used in connection with establishing or referencing mine elevation surveys; and

(m) The scale of the map.

Section 77.1201--Certification of mine maps.

Mine maps shall be made certified by an engineer or surveyor registered by the state in which the mine is located.

Section 77.1202--Availability of mine map.

The mine map maintained in accordance with the provisions of Section 77.1200 shall be available for inspection by the Secretary or an authorized representative.

ABSTRACT FROM FATAL ACCIDENT

December 1980

HOLMES SAFETY ASSOCIATION
MONTHLY SAFETY TOPIC

FATAL MACHINERY ACCIDENT

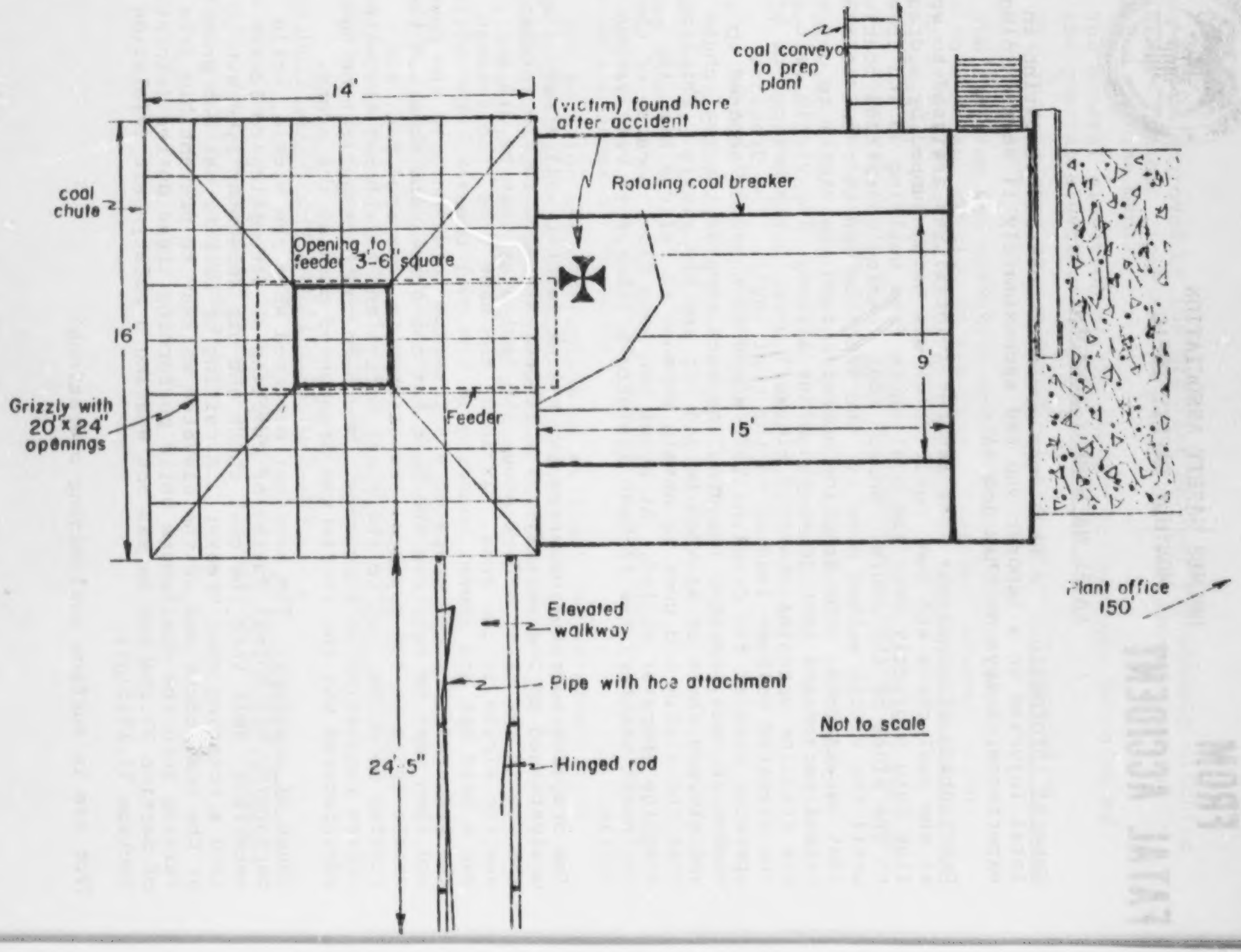
General Information: A machinery accident occurred resulting in fatal injuries to a laborer who had approximately 11 weeks mining experience, 5 days on this job site.

Description of Accident: The laborer (victim) was assigned to work at the coal chute and keep coal, which was being dumped by a dragline onto a grizzly over the coal chute from building up and freezing to the sides of the chute. Normal coal loading operations continued until the victim walked over to the dragline operator and told him that he was cold. The dragline operator told the victim to get a relief person and then go to the plant office. The victim left and the dragline operator observed him walk over to the bottom end of the elevated walkway leading to the coal chute. The dragline operator rotated the dragline left about 90 degrees, scooped up a bucket of coal, rotated the dragline back towards the coal chute and stopped short of it when he did not see the victim. Thinking that the victim had gone to obtain someone to relieve him, the dragline operator waited. At about the same time, because of the inclement weather, the foreman assigned a laborer to relieve the victim.

The dragline operator observed the relief laborer walk across the coalyard and up the walkway. The laborer signaled to the foreman who was in the plant office about 150 feet away that he did not see the victim in the area. At about the same time, the foreman saw a hard hat and shovel bouncing in the coal breaker. He notified the preparation plant operator via intercom to deenergize the power and then went to retrieve the hard hat and shovel and observed the victim lying in the breaker. He climbed in, examined him, and finding no pulse, ran to the plant office and telephoned the main office requesting an ambulance. Mouth-to-mouth resuscitation was administered but the victim was pronounced dead at the scene.

Cause of Accident: The accident occurred when the victim, while performing his normal duties of checking or attempting to loosen materials, fell into the coal chute and was subsequently drawn into a rotating coal breaker. A railing or barrier was not provided at the coal chute end of the elevated walkway to prevent him from falling into the coal chute while performing these duties (violation of Section 77.204) and he was not wearing a safety belt (violation of Section 77.1710(g)).

(For use in surface coal-mining operations)


14'
(victim) found here after accident
coal conveyor to prep plant
Rotating coal breaker
coal chute
Opening to feeder 3'-6" square
16'
9'
Grizzly with 20"x 24" openings
Feeder
15'
Plant office 150'
Elevated walkway
Pipe with hose attachment
Not to scale
24'-5"
Hinged rod

ABSTRACT FROM FATAL ACCIDENT

December 1980

HOLMES SAFETY ASSOCIATION
MONTHLY SAFETY TOPIC

FATAL HAULAGE ACCIDENT

General Information: A miner was fatally injured when the Caterpillar 988A front-end loader he was operating turned over as it went over a dropoff. He was crushed in the cab. The victim had 25 years of mining experience, with four months as a front-end-loader operator. The mine was a currently inactive underground mine that had limited surface activities. Mining operations, as such, at the operation were terminated. Except for maintenance work required to prevent mine flooding underground, all work on the property was being done on the surface.

Activities on the surface were directed in three areas. The primary activity was the salvage, reconditioning and sale of mining machinery and equipment formerly used to mine ore underground. Additionally, the production of concentrate products from stockpiled ore, and the cleaning of older stockpiled pellets at the bottom of former stockpiles were significant areas of operation.

Description of Accident: The victim had been instructed to take the Caterpillar 988A loader and pick up some pellets that had been dumped on the road. Prior to this, he had been instructed to use a bulldozer to push the pellets off the road, but this instruction was replaced with the one to retrieve the pellets with the loader.

Before the victim proceeded with the loader, he was given a short period of instruction by the general superintendent. The purpose of this instruction was to make certain that the victim understood how to properly operate the parking brake. With this instruction complete, the victim proceeded with the loader to retrieve the pellets which had been dumped by a haultruck to lighten the load.

Though there were no witnesses, it was believed events occurred in the following order. The victim left the mobile equipment parking area and proceeded via the road around the reclaim stockpiles to an intersection. Whether the victim made the sharp turn and proceeded directly up the intersecting road or continued on to the open area shaft to turn around first is not known. If he chose to push into the dumped pellets in third gear, it was likely that he made the turnaround to maintain momentum.

(For use in underground and surface metal and nonmetal mines)

There is no way to reconstruct exactly what sequence of events occurred after the pellets were picked up. The path of the loader traced a virtually straight path down the center of the road, through the intersection, down the 40-foot slope and off the dropoff. From this point, the loader went over the brink of the dropoff at about 60 degrees and came to rest on its top between the belt conveyor and the toe of the dropoff. The height of the dropoff was estimated to be 13 feet. There was evidence that the loader struck first on its left wheels and then came to rest upside down. Both left tires were blown by this impact. The position of final rest was down the line of the brink and virtually in line with the path traveled. All evidence indicated that the loader was traveling at coasting speed.

Some in the investigating group believed the engine was lugged down and stalled, and the short interval of time to coast backwards to the dropoff was spent attempting a restart. There was no evidence along the rock road that braking was ever attempted.

Cause of Accident: There were no witnesses, so that the exact cause of the accident could not be determined.

Factors contributing to the cause of the accident could be managements decision to use a front-end loader to remove pellets that had been dumped on the road rather than a bulldozer to push the pellets off the road. Even though the operator had 25 years mining experience, he had only four months on intermittent experience operating this front-end loader.

Contributing to the severity of the accident was failure of the management to provide roll over protection and seatbelts. This combination would probably have lessened the severity of the accident.

Recommendations: Heavy mobile equipment permitted by law to operate without rollover protection and seatbelts should not be used where terrain or operating circumstances increase the probability that an upset might occur.

December 1980

HOLMES SAFETY ASSOCIATION MONTHLY SAFETY TOPIC

Excerpts from Code of Federal Regulations

Subchapter N--Metal and Nonmetal Mine Safety

Part 55.6--Use

All of the standards are mandatory; violation of a standard will subject the mine operator to an order or notice of violation as required by Section 8 of the Act.

55.6-90 Mandatory. Persons who use or handle explosives or detonators shall be experienced persons who understand the hazards involved; trainees shall do such work only under the supervision of and in the immediate presence of experienced person(s).

55.6-91 Mandatory. Blasting operations shall be under the direct control of authorized persons.

55.6-92 Mandatory. Damaged or deteriorated explosives and blasting agents shall be destroyed in a safe manner under the instructions of the explosives or blasting agent manufacturer or its designated agent.

55.6-93 Mandatory. Boreholes shall be cleared of obstructions before charging.

55.6-94 Mandatory. Holes to be blasted shall be charged as near to blasting time as practical and such holes shall be blasted as soon as possible after charging has been completed. In no case shall the time elapsing between the completion of charging to the time of blasting exceed 72 hours unless prior approval has been obtained from the Mine Safety and Health Administration.

55.6-95 (Reserved)

55.6-96 Mandatory. Explosives shall be kept separated from detonators until charging is started.

55.6-97 Mandatory. Primers shall be made up only at the time of use and as close to the blasting area as conditions allow.

55.6-98 Mandatory.

(a) Primers containing a detonator shall be prepared with

SAFETY IS EVERYBODY'S BUSINESS

(For use in surface metal and nonmetal mine) the detonator contained securely and completely within the explosive charge or within a suitable tunnel or cap well.

(b) When using detonating cord to initiate another explosive, a connection shall be prepared with the detonating cord threaded through, attached securely to, or otherwise in intimate contact with the explosive charge.

55.6-99 Mandatory. Only wooden or other nonsparking implements shall be used to punch holes in an explosive cartridge.

55.6-100 Mandatory. Tamping poles shall be of wood or other material acceptable to the Mine Safety and Health Administration. Couplers of tamping poles shall be of nonsparking materials.

55.6-101 Mandatory. Tamping shall not be done directly on a primer.

55.6-102 Mandatory. Unused explosives and detonators shall be moved to a safe location as soon as charging operations are completed.

55.6-103 Mandatory. Areas in which charged holes are awaiting firing shall be guarded, or barricaded and posted, or flagged against unauthorized entry.

55.6-104 Mandatory. When safety fuse has been used, no person shall return to misfired holes for at least 30 minutes.

55.6-105 Mandatory. When electric blasting caps have been used, no person shall return to misfired holes for at least 15 minutes.

55.6-106 Mandatory. Faces and muck piles shall be examined by a competent person for undetonated explosives or blasting agents and any undetonated explosives or blasting agents found shall be disposed of safely.

55.6-107 Mandatory. Holes shall not be drilled where there is danger of intersecting a charged or misfired hole.

55.6-108 Mandatory. Fuse and igniters shall be stored in a cool, dry place away from oils or grease.

55.6-109 Mandatory. Safety fuse, igniter cord, and detonating cord shall not be used if they have been kinked, bent sharply, or otherwise damaged.

55.6-110 Mandatory. Fuses shall be cut and capped in safe, dry locations posted with "No Smoking" signs.

55.6-111 Mandatory. Blasting caps shall be crimped to fuses only with implements designed for that specific purpose.

55.6-112 Mandatory. The burning rate of the safety fuse in use at any time shall be measured, posted in conspicuous locations, and brought to the attention of all persons concerned with blasting.

55.6-113 Mandatory. When firing from 1 to 15 blastholes with safety fuse ignited individually using hand-held lighters, the fuses shall be of such lengths to provide the minimum burning time specified in the following table for a particular size round:

Number of Holes Per Round	Minimum Burning Time, Minutes
1	2
2-5	2-2/3
6-10	3-1/3
11-15	5

In no case shall any 40 second-per-foot safety fuse less than 36 inches long or any 30 second-per-foot safety fuse less than 48 inches long be used.

55.6-114 Mandatory. At least two people shall be present when lighting fuses, and no person shall light more than 15 individual fuses. If more than 15 holes per person are to be fired, igniter cord and connectors or electric blasting shall be used.

55.6-115 Mandatory. All detonating cord knots shall be tight and all connections shall be kept at right angles to the trunk-lines.

55.6-116 Mandatory. Fuse shall be ignited with hot-wire lighters, lead spitters, igniter cord or other such devices designed for this purpose. Carbide lights shall not be used to light fuses.

55.6-117 Mandatory. Fuse shall not be ignited before the primer and the entire charge are securely in place.

55.6-118 Mandatory. When using safety fuse, where fly rock might damage unlit or burning fuses, timing shall be such that all fuses are burning within the holes before any hole detonates.

55.6-119 Mandatory. Electric detonators of different brands shall not be used in the same round.

55.6-120 Mandatory. Except when being tested with a blasting galvanometer:

(a) Electric detonators shall be kept shunted until they are being connected to the blasting line or wired into a blasting round.

(b) Wired rounds shall be kept shunted until they are being connected to the blasting line.

(c) Blasting lines shall be kept shunted until immediately before blasting.

55.6-121 Mandatory. When blasting electrically a blasting galvanometer, or other instrument that is specifically designed for testing blasting circuits, shall be used to test:

(a) In surface operations:

1. Continuity of each electric blasting cap in the borehole prior to the addition of stemming.

2. Resistance of individual series or the resistance of multiple balanced series to be connected in parallel prior to their connection to the blasting line.

3. Continuity of blasting lines prior to the connection of electric blasting cap series.

4. Total blasting circuit resistance prior to connection to the power source.

(b) In underground operations:

1. Continuity of each electric blasting cap series.

2. Continuity of blasting lines prior to the connection of electric blasting caps.

55.6-122 Mandatory. Permanent blasting lines shall be properly supported, insulated and kept in good repair.

55.6-123 Mandatory. When electric detonators are used, charging shall be stopped immediately when the presence of static electricity or stray currents is detected; the condition shall be remedied before charging is resumed.

55.6-124 Mandatory. When electric detonators are used, charging shall be suspended in surface mining, shaft sinking, and tunneling and people withdrawn to a safe location upon the approach of an electrical storm.

55.6-125 Mandatory. If branch circuits are used when blasts are fired from power circuits, safety switches located at safe distances from the blast areas shall be provided in addition to the main blasting switch.

55.6-126 Mandatory. Electric power distribution circuits shall be de-energized within 50 feet of boreholes containing electric blasting caps which can be initiated by conventional power sources or extraneous electricity except that such circuits need not be de-energized between 25 and 50 feet of such boreholes when stray current tests, conducted as frequently as necessary, measure a maximum stray current less than 0.05 amperes through a one-ohm resistor measured at the location of the electric blasting cap.

55.6-127 Mandatory. Blasting switches shall be locked in the open position, except when closed to fire the blast. Lead wires shall not be connected to the blasting switch until the shot is ready to be fired.

55.6-128 Mandatory. The key or other control to an electrical firing device shall be entrusted only to the person designated to fire the round or rounds.

55.6-129 Mandatory. Electric circuits from the blasting switches to the blast area shall not be grounded.

55.6-130 Mandatory. At least a 15-foot air gap shall be provided between the blasting circuit and the electric power source.

55.6-131 Mandatory. Power sources shall be suitable for the number of electric detonators to be fired and for the type of circuits used.

55.6-132 Mandatory. Delay connectors shall be treated and handled with the same safety precautions as detonators.

55.6-133 Mandatory. If any part of a blast is connected in parallel and is to be initiated from powerlines or lighting circuits, the time of current flow shall be limited to a maximum of 25 milliseconds by incorporating an arcing control device in the blasting circuit or by interrupting the circuit with an explosive charge attached to one or both lead lines and initiated by a zero-delay electric blasting cap.

55.6-134 Mandatory. Tools used for opening metal or nailed wooden containers of explosives or detonators shall be of non-sparking materials.

55.6-135 Mandatory. Holes shall not be collared in bootlegs.

55.6-136 Mandatory. Black powder shall not be used for blasting except when a desired result cannot be obtained with another type of explosive such as in quarrying certain types of dimension stone.

55.6-137 Mandatory. In the use of black blasting power:

(a) Containers shall not be opened in, or within 50 feet of, any magazine; within any building in which a fuel-fired or exposed-element electric heater is in operation; where electrical or incandescent-particle sparks could result in powder ignition; or within 50 feet of any open flame.

(b) Granular powder shall be transferred from containers only by pouring.

(c) Spills of granular powder shall be cleaned up promptly with nonsparking equipment, contaminated powder shall be put into a container of water and its content disposed of promptly after the granules have disintegrated, or the spill area shall be flushed with a copious amount of water to completely disintegrate the granules.

(d) Containers of powder shall be kept securely closed at all times other than when the powder is being transferred from or into a container.

(e) Containers of powder transported by vehicles shall be in a wholly enclosed cargo space.

(f) Misfires shall be disposed of by: (1) washing the stemming and powder charge from the borehole, and (2) removal and disposal of the initiator as damaged explosive.

(g) Boreholes of shots that fire but fail to break, or fail to break properly, shall not be recharged for at least 12 hours.

55.6-138 Mandatory. Explosives or blasting agents shall not be loaded into drilled or sprung holes that could result in premature detonation from heat.

55.6-139 Mandatory. Blasting areas shall not be re-entered after firing until concentrations of smoke, dust, and fumes have been reduced to safe limits as required in, and determined by, mandatory standards 55.5-1 and 55.5-2, respectively.

55.6-140 Mandatory. Blasting circuits and electric blasting caps (which are capable of being initiated by conventional power sources) shall be protected from sources of extraneous electricity.

55.6-141 (Reserved).

55.6-142 Mandatory. Explosives or blasting agents shall not be loaded into boreholes through or with either drill stem equipment or other devices which could be extracted while containing explosives or blasting agents. The use of loading hose, collar sleeves or collar pipes is permitted.

55.6-143 through 55.6-158 (Reserved).

55.6-159 Mandatory. Powder chests shall be:

(a) Substantially constructed of nonsparking material on the inside.

(b) Posted with suitable warning signs.

(c) Located out of the blast area and out of the line of blasts.

(d) Emptied and their contents returned to the main magazine at the end of each shift unless the powder chest is located within the area continually attended by employees during shift changes.

(e) Separate for detonators and explosives unless separated by 4 inches of hardwood or the equivalent.

(f) Kept locked when unattended.

55.6-160 Mandatory. Ample warning shall be given before blasts are fired. All persons shall be cleared and removed from the blasting area unless suitable blasting shelters are provided to protect persons endangered by concussion or flyrock from blasting.

55.6-161 Mandatory. If explosives are suspected of burning in a hole, all persons in the endangered area shall move to a safe location and no one shall return to the hole until the danger has passed, but in no case within 1 hour.

55.6-162 Mandatory. Lead wires and blasting lines shall not be strung across power conductors, pipelines, railroad tracks, or within 20 feet of bare powerlines. They shall be protected from sources of static or other electrical contact.

55.6-163 Mandatory. The double-trunkline or loop system shall be used in detonating cord blasting.

55.6-164 Mandatory. Trunklines, in multiple-row blasts, shall make one or more complete loops, with crossties between loops at intervals of not over 200 feet.

55.6-165 through 55.6-167 (Reserved).

55.6-168 Mandatory. Misfires shall be reported to the proper supervisor and shall be disposed of safely before any other work is performed in that blasting area.

55.6-169 through 55.6-189 (Reserved).

Clarification: Standard 55.6-140

This standard requires that all blasting circuits and electric blasting caps, which may be initiated by conventional power sources, be protected from sources of extraneous electricity. For the purpose of this standard, sources of extraneous electricity include stray currents and static electricity. Potential conductors of stray current and static electricity are tracks (particularly those that may be used as an electrical return), pipelines, airlines, power lines, telephone lines, and water. In addition, other possible sources of extraneous electricity are two-way radios and lightning.

The methods for protecting blasting circuits and electric blasting caps from the potential sources of extraneous electricity are isolation, insulation, location and shunting.

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HOLMES SAFETY ASSOCIATION MONTHLY SAFETY TOPIC

Safety in Mine Haulage

Haulage accidents usually are responsible for about 17 or 18 percent of all mine fatalities and about 21 percent of all non-fatal mine accidents and are on the rise in 1980. When the relatively small number of employees continuously exposed to haulage hazards is considered, it would appear that haulage is a very hazardous phase of mine operation.

Haulage accidents have increased from year to year, due to the increase in electrical haulage, larger mine cars, heavier locomotives, longer hauls, and greater speed. Unless very definite steps are taken to eliminate the causes of these accidents, they will continue to increase rather than be reduced, as they can and should be.

Those engaged in haulage are naturally more exposed to haulage hazards, and it would be expected that such employees would suffer a greater loss than those engaged in other occupations. However, a study of experience over a five-year period in large mines shows that haulage employees suffered 43 percent of the haulage fatalities, while those engaged in other occupations suffered a loss of 57 percent.

Haulage accidents generally entail greater economic loss than other types of mine accidents, except for explosions and fires. As a rule, there is an interruption of production; there is usually loss from damage of equipment, in some cases there is definite damage to the mine, and haulage accidents can cause fires or explosions or both. The economic loss involved in haulage accidents should justify special efforts on the part of mine management to take all feasible precautions to prevent their occurrences.

Underground haulage in many of the large modern mines of today is similar in many respects to railroad practice. In recent years, the railroads have made wonderful strides in reducing accidents, and instead of being one of the most hazardous occupations, as it once was, railroading is now one of the safest. Doubtless, if thought and action similar to that given to reducing accidents among railroad passengers and employees were given to safety in mine haulage, underground haulage accidents could be reduced in about the same ratio.

Haulage accidents may be classified, according to responsibility, into two groups - those for which management is largely responsible and those for which the employee is largely to blame; there is, however, an overlapping of responsibility from one group to the

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(For use in all mining operations)

other. If haulage accidents are to be reduced, it is absolutely essential that both management and employees cooperate to this end.

In the first group, for which management is largely responsible, may be included accidents due to faulty equipment, poor track, a poorly arranged system of haulage, lack of clearance or of overhead protection, and dirty roadways; even in these features, however, the employee is not without a measure of responsibility, as failure of haulage equipment possible may be due to lack of care on the part of the employee, the failure to report when equipment is out or order, or failure to do a good job of installing, repairing, or operating.

To the second group of accidents, for which the employee may be largely responsible, belong those caused by such careless practices as jumping on and off fast-moving trips, coupling on the "fly", running at excessive speeds, failure to properly block cars, and similar hazardous and unnecessary acts of omission or commission. If, however, management condones such practices or, as in some instances, insists upon them, it must accept its share of responsibility for the accidents that inevitably result.

By using extra care and more thought, haulage accidents could be greatly decreased.

(Note: See fatal haulage accident abstract included in this month's bulletin.)

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An Accident?

You pick a number. The roulette wheel spins, and the man with the little rake draws your money towards him. You took a chance and you lost.

A guard is removed from a piece of machinery. Someone gets their arm caught. Is this an accident?

Cars are sent out on the road despite reports of defective brakes, poor steering, or badly worn tires. Through one of these defects, the automobile is involved in a collision. An accident?

There are broken steps on your premises. You know they are there, but no repairs have been made. Someone has a bad fall. Is this an accident?

The floor is wet beneath the light switch. The light switch cover has been broken and has not been replaced. Someone standing in a puddle inadvertently puts their finger on the electrical connection and receives a bad shock. An accident?

All catwalks should have guard rails. Yet in certain instances workers have fallen from catwalks because of the lack of a protective guard rail. Are these accidents?

A lot of so-called accidents are planned events. They happen because the way has been smoothly paved for them and only the exact time of their occurrence is unknown.

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One Bad Apple

What is the individual employee's part in safety? How important is the observance of safety practices and safety rules?

We can say in answer to the first question that the roster of employees is composed of individuals, so it follows that each person's part is vital to a safety program and its results.

The program can be compared to a barrel of apples. If every apple packed in the barrel is absolutely sound, there is an excellent chance that the apples will be in good shape, fit to eat for a long time. Let one wormy or bruised apple be packed and, in a short time, a large portion of the contents will be spoiled.

The answer to the second question is simple. What you, what I, what the other person does is important to us, not just today or tomorrow, but indefinitely. Carelessness in securing a nut, failure to apply a key, to properly lubricate, to make a sound weld, in other words, failure to do a job right, can have an effect weeks or months later causing injury to someone.

How often do we read about accidents on highways in which the blame is placed on a driver who went to sleep? The same can be said about many other accidents. Somebody slept.

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Shock...Nature's Killer

While pursuing a wounded deer in the backwoods of New York State, a young hunter tripped and rolled 100 feet into a gully. Unable to stand on a broken leg, he crawled painfully through the underbrush, then fell exhausted where companions found him an hour later. They gripped him under the arms and helped him hobble back to camp.

On the rough trail, he complained of severe pain in his leg and chest. "Just a few cracked ribs, nothing to worry about," diagnosed one companion, "we'll get a doctor in the morning." By night, the injured man seemed remarkably improved, much to the relief of everyone. His leg had entirely stopped bleeding, he no longer complained, in fact, he was indifferent toward his wound. But at daybreak, when companions tried to awaken him for a trip to a nearby doctor, he was dead.

His friends were stunned, for they had not suspected his critical condition. Had they been alert, however, they would have realized that he desperately needed treatment. His pulse was rapid and weak, his breathing shallow. His skin was pasty and wet, his eyes glazed and his fingertips blue. His speech was slow and slightly incoherent. In fact, he was suffering the classic symptoms of that mysterious killer known as shock.

Shock often lies undetected beyond a mask of more spectacular injuries, such as bleeding or severe burns. Its power is relatively unknown. It is rarely mentioned on death certificates, yet it has a hand in nearly all deaths from injuries.

Shock is the body's reaction to a major physical or emotional insult. Shock cannot develop by itself like a disease, but must be triggered by a sudden happening. A person can suffer shock from any injury; a burn, severed artery, broken bone, puncture wound, blow on head, serious infection, or even an emotional jolt, such as a loved one's sudden death. Some people go into shock at the sight of blood.

Unfortunately, a person cannot stop their body from going into shock any more than they can order their heart to stop beating or their lungs to stop expanding. Shock, like the heart beat and breathing, is controlled by the autonomic nervous system that works without willful direction from the brain.

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First Aid in the Mines

An important reason to learn first aid is to be able to aid the injured or suddenly ill person until a physician's professional care is available. If this were the only reason for first aid, it would be enough. There is, however, an additional benefit from knowing first-aid practices. That is, it develops an awareness of the hazards of unsafe actions.

Knowledge of first aid has the added benefit of letting you know which problems to handle first. For example, if a victim is not breathing and is also bleeding from an open wound, you should first get them breathing and then work on the bleeding. This can mean the difference between a bad accident and a major disaster.

Wherever you are, there is always the possibility that someone will need first aid. If you are near first-aid equipment and have such things as bandages and splints at hand in a clean, warm, and dry, well-lighted place, your job as a first-aid worker will be easier than if you do not have equipment and ideal conditions.

In a mine, conditions vary from place to place. Conditions in one part of the mine will be different from conditions in another. For example, one place in the mine might be muddy or extremely hazardous. These differences will make differences in the way you can give first aid.

In some ways, it is easier to provide first aid at a surface mine than in an underground mine. For example, it might be easier to remove a patient quickly from a surface mine for transport to a physician. In some underground mines, the trip out to the surface may be a matter of miles.

Water at a surface mine is more easily controlled than in an underground mine. At a surface mine, water can be diverted to streams away from the work area, and, even after a rainfall, gravity will help to remove water. At an underground mine, water must be pumped out, but sometimes there is so much water than pumps can't keep up with it. Underground mines, then, can be wet and muddy. Thus, if a mine worker collapses because of injury or sudden illness, they might be lying in mud. In an underground mine, air may be dusty, and lighting poor. You might be unable to see signs which would help you to determine what kind of aid a victim needs. There are things, however, which you can do for the victim and it is wise to become familiar with them.

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An underground mine does have an advantage over a surface mine in regard to temperature and humidity. At an underground mine, workers are not usually exposed to extremes in temperature and humidity, as they are in a surface mine.

The important thing is for you to learn how and what kind of aid to give under ideal circumstances and then do the best you can if you find yourself in less than ideal conditions.

Almost every type of injury or sudden illness that happens outside a mine can happen inside a mine. For example, underground mining machines use large amounts of electricity; therefore, electrical shock or burns are possible. Workers can be cut while using machinery. Heavy equipment could fall on a miner's foot. A miner might lift an object that is too heavy and experience a sprained back or hernia. In any case, the first-aid worker has the same responsibility--to give immediate temporary care until the victim can be seen by a physician.

Only a physician has the training and experience to know exactly what the problem is and how to treat it. However, there are a number of emergency situations that may occur in which your aid for the general condition can save a life. These emergencies include: breathing problems, blood loss, shock, spread of poisoning, infection, fractures (broken bones) and dislocations, pain, loss of strength, a need for medical attention, and a need for transportation. When you find yourself in an emergency first-aid situation it is important that you know which of these conditions are most serious, and then act quickly to give aid.

What the first-aid worker does to help the victim is extremely important. It could mean the difference between whether or not the victim is alive for the physician to treat at all.

It is important to be sympathetic with the person you are helping, as it can make a big difference in how they feel and in turn how well your part in aiding them can be done. If you learn the proper first aid techniques, you will be confident, and that is a great help to the victim. Using a quiet voice and reassuring the victim will help also.

When first aid is described as giving immediate and temporary aid, the word immediate is the key to whether or not your help will do the most good. You must be able to quickly identify the kind of injury or illness the victim has. The miner you're helping might have more than one injury. Then you must be able to determine which is most serious, and therefore treat that one first. In a mine disaster, such as an explosion, many workers could be injured. In that case, you should be able to quickly determine which miner is most seriously injured and should be treated first.

Here is a list of conditions in order of seriousness:

1. Abnormal breathing--if the victim has stopped breathing, death will occur without immediate help.

2. Bleeding--in certain situations, loss of blood can be very rapid; death could follow very quickly.

3. Shock--this condition is more serious than most people believe. It is next in seriousness to bleeding and can also cause death. Because shock is present in almost all serious injuries, victims should be assumed to be suffering from shock, and therefore be treated for it.

4. Open wounds and burns--many kinds of complications can result from these injuries and lead to death of the victim.

5. Fractures and dislocations--only after victims have been given aid for breathing problems, bleeding, shock, open wounds, and burns, would you take care of these.

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